



SEQUENCE LISTING

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<120> LOCI FOR IDIOPATHIC GENERALIZED EPILEPSY, MUTATIONS THEREOF AND
METHOD USING SAME TO ASSESS, DIAGNOSE, PROGNOSIS OR TREAT EPILEPSY

<130> GOUD:023US

<140> 09/718,355

<141> 2000-11-24

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<151> 1999-11-26

<160> 408

<170> PatentIn version 3.2

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Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile
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Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
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Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Gly
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Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
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Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser
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Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
130 135 140

Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
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Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg
165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
180 185 190

Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp
195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
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Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
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Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
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Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
260 265 270

Leu Arg Asn Lys Cys Ile Gln Trp Pro Pro Thr Asn Ala Ser Leu Glu
275 280 285

Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu
290 295 300

Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp
305 310 315 320

Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys
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Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val
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Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe
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Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp
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Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met
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Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala
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465 470 475 480

Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu
485 490 495

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Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser
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Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr
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Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg
545 550 555 560

Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser
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Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp
580 585 590

Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu
595 600 605

Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln
610 615 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys
625 630 635 640

Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly
645 650 655

Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile
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Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu
675 680 685

Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu
690 695 700

Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu
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Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro
725 730 735

Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro
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Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro
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Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe

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Ile	Arg	Lys	Gln	Lys	Ile	Leu	Asp	Glu	Ile	Lys	Pro	Leu	Asp	Asp
1040						1045					1050			
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1055						1060					1065			
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1070						1075					1080			
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1085						1090					1095			
Glu	Ser	Asp	Tyr	Met	Ser	Phe	Ile	Asn	Asn	Pro	Ser	Leu	Thr	Val
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Lys	Leu	Asn	Glu	Ser	Ser	Ser	Ser	Ser	Glu	Gly	Ser	Thr	Val	Asp
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Ile	Gly	Ala	Pro	Val	Glu	Glu	Gln	Pro	Val	Val	Glu	Pro	Glu	Glu
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Thr	Leu	Glu	Pro	Glu	Ala	Cys	Phe	Thr	Glu	Gly	Cys	Val	Gln	Arg
1175						1180					1185			
Phe	Lys	Cys	Cys	Gln	Ile	Asn	Val	Glu	Glu	Gly	Arg	Gly	Lys	Gln
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Trp	Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile	Leu	Leu	Ser	Ser	Gly
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Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr Glu Glu Ser Leu Tyr
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Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe Phe
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Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln
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Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu
1490 1495 1500

Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys
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Pro Gln Lys Pro Ile Pro Arg Pro Gly Asn Lys Phe Gln Gly Met
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Val Phe Asp Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met
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Asp Gln Ser Glu Tyr Val Thr Thr Ile Leu Ser Arg Ile Asn Leu
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Ser Leu Arg His Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp
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Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu
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Ser Gly Glu Met Asp Ala Leu Arg Ile Gln Met Glu Glu Arg Phe
1880 1885 1890

Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Gln Pro Ile Thr Thr
1895 1900 1905

Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Val Ile Ile Gln
1910 1915 1920

Arg Ala Tyr Arg Arg His Leu Leu Lys Arg Thr Val Lys Gln Ala
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Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
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Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Gly
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Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
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Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser
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Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
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Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
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Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
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Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
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Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn

260

265

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Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe
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Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met
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Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile
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Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala
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Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser
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Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu
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Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly
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Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser
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Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr
530 535 540

Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg
545 550 555 560

Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser
565 570 575

Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp
580 585 590

Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu
595 600 605

Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln
610 615 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys
625 630 635 640

Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly
645 650 655

Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile
660 665 670

Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu
675 680 685

Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu
690 695 700

Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu
705 710 715 720

Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro
725 730 735

Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro
740 745 750

Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro
755 760 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe
770 775 780

Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu
785 790 795 800

Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe
805 810 815

Leu Lys Ile Ile Ala Met Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp
820 825 830

Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly
835 840 845

Leu Ala Asn Val Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu
850 855 860

Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile
865 870 875 880

Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val
885 890 895

Leu Ala Ile Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe
900 905 910

Gly Lys Ser Tyr Lys Asp Cys Val Cys Lys Ile Ala Ser Asp Cys Gln
915 920 925

Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu Ile Val
930 935 940

Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met
945 950 955 960

Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met
965 970 975

Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu
980 985 990

Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asp Asn Glu
995 1000 1005

Met Asn Asn Leu Gln Ile Ala Val Asp Arg Met His Lys Gly Val
1010 1015 1020

Ala Tyr Val Lys Arg Lys Ile Tyr Glu Phe Ile Gln Gln Ser Phe
1025 1030 1035

Ile Arg Lys Gln Lys Ile Leu Asp Glu Ile Lys Pro Leu Asp Asp
1040 1045 1050

Leu Asn Asn Lys Lys Asp Ser Cys Met Ser Asn His Thr Ala Glu
1055 1060 1065

Ile Gly Lys Asp Leu Asp Tyr Leu Lys Asp Val Asn Gly Thr Thr
1070 1075 1080

Ser Gly Ile Gly Thr Gly Ser Ser Val Glu Lys Tyr Ile Ile Asp
1085 1090 1095

Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val
1100 1105 1110

Thr Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn
1115 1120 1125

Thr Glu Asp Phe Ser Ser Glu Ser Asp Leu Glu Glu Ser Lys Glu
1130 1135 1140

Lys Leu Asn Glu Ser Ser Ser Ser Ser Glu Gly Ser Thr Val Asp
1145 1150 1155

Ile Gly Ala Pro Val Glu Glu Gln Pro Val Val Glu Pro Glu Glu

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1175	1180	1185		
Phe Lys Cys Cys Gln Ile Asn	Val Glu Glu Gly Arg	Gly Lys Gln		
1190	1195	1200		
Trp Trp Asn Leu Arg Arg Thr	Cys Phe Arg Ile Val	Glu His Asn		
1205	1210	1215		
Trp Phe Glu Thr Phe Ile Val	Phe Met Ile Leu Leu	Ser Ser Gly		
1220	1225	1230		
Ala Leu Ala Phe Glu Asp Ile	Tyr Ile Asp Gln Arg	Lys Thr Ile		
1235	1240	1245		
Lys Thr Met Leu Glu Tyr Ala	Asp Lys Val Phe Thr	Tyr Ile Phe		
1250	1255	1260		
Ile Leu Glu Met Leu Leu Lys	Trp Val Ala Tyr Gly	Tyr Gln Thr		
1265	1270	1275		
Tyr Phe Thr Asn Ala Trp Cys	Trp Leu Asp Phe Leu	Ile Val Asp		
1280	1285	1290		
Val Ser Leu Val Ser Leu Thr	Ala Asn Ala Leu Gly	Tyr Ser Glu		
1295	1300	1305		
Leu Gly Ala Ile Lys Ser Leu	Arg Thr Leu Arg Ala	Leu Arg Pro		
1310	1315	1320		
Leu Arg Ala Leu Ser Arg Phe	Glu Gly Met Arg Val	Val Val Asn		
1325	1330	1335		
Ala Leu Leu Gly Ala Ile Pro	Ser Ile Met Asn Val	Leu Leu Val		
1340	1345	1350		
Cys Leu Ile Phe Trp Leu Ile	Phe Ser Ile Met Gly	Val Asn Leu		
1355	1360	1365		
Phe Ala Gly Lys Phe Tyr His	Cys Ile Asn Thr Thr	Thr Gly Asp		
1370	1375	1380		

Arg Phe Asp Ile Glu Asp Val Asn Asn His Thr Asp Cys Leu Lys
1385 1390 1395

Leu Ile Glu Arg Asn Glu Thr Ala Arg Trp Lys Asn Val Lys Val
1400 1405 1410

Asn Phe Asp Asn Val Gly Phe Gly Tyr Leu Ser Leu Leu Gln Val
1415 1420 1425

Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala Ala Val Asp
1430 1435 1440

Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr Glu Glu Ser Leu Tyr
1445 1450 1455

Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe Phe
1460 1465 1470

Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln
1475 1480 1485

Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu
1490 1495 1500

Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys
1505 1510 1515

Pro Gln Lys Pro Ile Pro Arg Pro Gly Asn Lys Phe Gln Gly Met
1520 1525 1530

Val Phe Asp Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met
1535 1540 1545

Ile Leu Ile Cys Leu Asn Met Val Thr Met Met Val Glu Thr Asp
1550 1555 1560

Asp Gln Ser Glu Tyr Val Thr Thr Ile Leu Ser Arg Ile Asn Leu
1565 1570 1575

Val Phe Ile Val Leu Phe Thr Gly Glu Cys Val Leu Lys Leu Ile
1580 1585 1590

Ser	Leu	Arg	His	Tyr	Tyr	Phe	Thr	Ile	Gly	Trp	Asn	Ile	Phe	Asp
1595						1600					1605			
Phe	Val	Val	Val	Ile	Leu	Ser	Ile	Val	Gly	Met	Phe	Leu	Ala	Glu
1610						1615					1620			
Leu	Ile	Glu	Lys	Tyr	Phe	Val	Ser	Pro	Thr	Leu	Phe	Arg	Val	Ile
1625						1630					1635			
Arg	Leu	Ala	Arg	Ile	Gly	Arg	Ile	Leu	Arg	Leu	Ile	Lys	Gly	Ala
1640						1645					1650			
Lys	Gly	Ile	Arg	Thr	Leu	Leu	Phe	Ala	Leu	Met	Met	Ser	Leu	Pro
1655						1660					1665			
Ala	Leu	Phe	Asn	Ile	Gly	Leu	Leu	Leu	Phe	Leu	Val	Met	Phe	Ile
1670						1675					1680			
Tyr	Ala	Ile	Phe	Gly	Met	Ser	Asn	Phe	Ala	Tyr	Val	Lys	Arg	Glu
1685						1690					1695			
Val	Gly	Ile	Asp	Asp	Met	Phe	Asn	Phe	Glu	Thr	Phe	Gly	Asn	Ser
1700						1705					1710			
Met	Ile	Cys	Leu	Phe	Gln	Ile	Thr	Thr	Ser	Ala	Gly	Trp	Asp	Gly
1715						1720					1725			
Leu	Leu	Ala	Pro	Ile	Leu	Asn	Ser	Lys	Pro	Pro	Asp	Cys	Asp	Pro
1730						1735					1740			
Asn	Lys	Val	Asn	Pro	Gly	Ser	Ser	Val	Lys	Gly	Asp	Cys	Gly	Asn
1745						1750					1755			
Pro	Ser	Val	Gly	Ile	Phe	Phe	Phe	Val	Ser	Tyr	Ile	Ile	Ile	Ser
1760						1765					1770			
Phe	Leu	Val	Val	Val	Asn	Met	Tyr	Ile	Ala	Val	Ile	Leu	Glu	Asn
1775						1780					1785			
Phe	Ser	Val	Ala	Thr	Glu	Glu	Ser	Ala	Glu	Pro	Leu	Ser	Glu	Asp
1790						1795					1800			

Asp	Phe	Glu	Met	Phe	Tyr	Glu	Val	Trp	Glu	Lys	Phe	Asp	Pro	Asp	
1805						1810					1815				
Ala	Thr	Gln	Phe	Met	Glu	Phe	Glu	Lys	Leu	Ser	Gln	Phe	Ala	Ala	
1820						1825					1830				
Ala	Leu	Glu	Pro	Pro	Leu	Asn	Leu	Pro	Gln	Pro	Asn	Lys	Leu	Gln	
1835						1840					1845				
Leu	Ile	Ala	Met	Asp	Leu	Pro	Met	Val	Ser	Gly	Asp	Arg	Ile	His	
1850						1855					1860				
Cys	Leu	Asp	Ile	Leu	Phe	Ala	Phe	Thr	Lys	Arg	Val	Leu	Gly	Glu	
1865						1870					1875				
Ser	Gly	Glu	Met	Asp	Ala	Leu	Arg	Ile	Gln	Met	Glu	Glu	Arg	Phe	
1880						1885					1890				
Met	Ala	Ser	Asn	Pro	Ser	Lys	Val	Ser	Tyr	Gln	Pro	Ile	Thr	Thr	
1895						1900					1905				
Thr	Leu	Lys	Arg	Lys	Gln	Glu	Glu	Val	Ser	Ala	Val	Ile	Ile	Gln	
1910						1915					1920				
Arg	Ala	Tyr	Arg	Arg	His	Leu	Leu	Lys	Arg	Thr	Val	Lys	Gln	Ala	
1925						1930					1935				
Ser	Phe	Thr	Tyr	Asn	Lys	Asn	Lys	Ile	Lys	Gly	Gly	Ala	Asn	Leu	
1940						1945					1950				
Leu	Ile	Lys	Glu	Asp	Met	Ile	Ile	Asp	Arg	Ile	Asn	Glu	Asn	Ser	
1955						1960					1965				
Ile	Thr	Glu	Lys	Thr	Asp	Leu	Thr	Met	Ser	Thr	Ala	Ala	Cys	Pro	
1970						1975					1980				
Pro	Ser	Tyr	Asp	Arg	Val	Thr	Lys	Pro	Ile	Val	Glu	Lys	His	Glu	
1985						1990					1995				
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2000						2005									

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<213> Homo sapiens

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gcaaggagaa gcaatactgg gagattacag agaagaaagg aaaaaaggct gagagaaaag 180
aggttgagga agaaatcata aatctggatt gtgagaaagt gtttaatat tagccactag 240
atggcgatgt aatgtaagggt gctgtcctga cttttttttt ttttttttga aacaagctat 300
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gaggtctctg gtgcatgtgt gtatgtgtgc gtttgtgtgt gtttgtgtgt ctgtgtgttc 420
tgccccagtg agactgcagc ccttgtaaact actttgacac cttttgcaag aaggaatctg 480
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aagtttatcc attccagtta ttcctttgga aaaagagtcc atggaaattc agtttgggca 660
gagcaggaag tccatttttg tatgtgtatt cagaccaact gtccccctcc tccctctcct 720
cctcttcttg tcccctcccc cgcgccctcc tctctcaacc ttccatgaac tgaaatcagg 780
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<211> 483
<212> DNA
<213> Homo sapiens

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caggacctga cagcttcaac ttcttcacca gagaatctct tgcggctatt gaaagacgca 180
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cccaaagcaa atagtgaact ggaagctgga aagaaccttc catttattta tggagacatt 300
cctccagaga tgggtgtcaga gcccctggag gacctggacc cctactatat caataagaaa 360
gtgagtgttt tttttatcag gcatattttt gctgctaatt gcctactgca ttccttggac 420
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<211> 497
<212> DNA
<213> Homo sapiens

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agtttaagtg gtttataactt tcataacttct atgttggtgtt cctgtcttac agacttttat 180
agtattgaat aaaggggaagg ccactctccg gttcagtgcc acctctgccc tgtacatttt 240
aactcccttc aatcctctta ggaaaatagc tattaagatt ttggtacatt catatccttt 300
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<211> 501
<212> DNA
<213> Homo sapiens

<400> 8
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tatccctgaa ttttggctaa gctgcagttt gggcttttca atgttagctt tttgtaatat 180
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attggacaaa gaatgtagag taagttcaac ttatatTTTT aataacatat atacattygg 360
gattytgaaa ctgtgtctta atgtagtctt aaaataaaac tgaagagcat tttattaaag 420
tcattcctag acaaaattac gcagcaagag gacaatgctc attggccctc aggcctgctg 480
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<211> 563
<212> DNA

<213> Homo sapiens

<400> 9

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aaaatccatc tgcttagttt tcttttttag tatttatcta ttccactgat ggagtataa	180
gaaattggta tgctatgaaa aaacactgtt actttatcaa attttttga tgcttgtttt	240
cagatacacc ttcacaggaa tatatacttt tgaatcactt ataaaaatta ttgcaagggg	300
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atcagtgtt atgcttttaa gaataggtt gctttacctg tagaatattt ttgtgtgatt	480
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<210> 10

<211> 253

<212> DNA

<213> Homo sapiens

<400> 10

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agtcttgaga gctttgaaaa ctatttcggt aattccaggt aagaagtgat tagagtaaag	180
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ctcccgctta cag	253

<210> 11

<211> 340

<212> DNA

<213> Homo sapiens

<400> 11

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ggcaatgtct cggcattgag aacattcaga gttctccgag cattgaagac gatttcagtc	180
attccaggtg agagcaaggt tagataatga gacggacca tcatgtgatt cagcatcctt	240
ctctgcttga cattcagttt tacagaaaat caggaatcat aagactaggt gttcaaagaa	300

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<210> 12
<211> 409
<212> DNA
<213> Homo sapiens

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<212> DNA
<213> Homo sapiens

<400> 13
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cgactttctt ttttcaaaca ggatatcatt atttcctgga gggtttttta gatgcactac 180
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<211> 604
<212> DNA
<213> Homo sapiens

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tcaa	604

<210> 15
 <211> 378
 <212> DNA
 <213> Homo sapiens

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<210> 16
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 <212> DNA
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<210> 17
 <211> 965
 <212> DNA
 <213> Homo sapiens

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taaaatgaga atgataatca aaaggaatga accatattct gttatgaatg ctgaaatctc	240
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<212> DNA

<213> Homo sapiens

<400> 18

aagagtttta tcaactatat taaaattatt ttgtatttta taaaattatg aaatcaggaa	60
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atgatacaat aagtcagaaa tatctgccat caccaattga atatgaaagt gcatgatgca	180
tgtgtttcat gaaattcact gtgtcaccat ttgggtgttt gcttgtcata ttgctcaa	240
taattgttta atgcattagc attttttttt acaggggaaca accactgaaa ctgaaatgag	300
aaagagaagg tcaagttctt tccacgtttc catggacttt ctagaagatc cttcccaaag	360
gcaacgagca atgagtatag ccagcattct aacaaataga gtagaagggt ggtaacaaat	420
tctattttcg tttcaattat tttcaccaaa cttatattgt ctcatattcaa acaaataat	480
ttgtgagttg ggaatagtg atttctaata aaagacagtc taattcaaga gctgttattt	540
cttatatcta ctgagatatt ctagaagcct taacaattta ttttaaaatg agtgatattg	600
ggactaagac tgttttccta actgtgtagc aactctttga a	641

<210> 19

<211> 818

<212> DNA

<213> Homo sapiens

<400> 19

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ataaccttgg gaggtttaga gtaaactgta atttttttta caagtacaaa aaagggtgtc	180
tctgtaacaa aaatgtgttg attactgaaa ataagtttag tggatatgaa ataaatgtgt	240
gtgtataaag tawacctttt ggtgggtctt tttttttttt ttcttaattct agaacttgaa	300
gaatccaggc agaaatgccc accctgttgg tataaatttt ccaacatatt cttaattctgg	360
gactgttctc catattgggt aaaagtgaag catgttgtca acctgggtgt gatggacca	420
ttgttgacc tggccatcac catctgtatt gtcttaataa ctcttttcat ggccatggag	480
cactatccaa tgacggacca tttcaataat gtgcttacag taggaaactt ggtaagcata	540
ttggaaggta aatgtgttta gtcttcaa atttctgcttg aaaaactgtt tacattta	600
tgtgtatagc agtctttcaa ccaccttca tgcttcttgg cccctgcaaa atcgcaatta	660
tatttagctg gctatactct acttttttgc caaaaataat cacccttaat gtgctcaca	720

aaactgagaa aggcataaggc ctacagcact acttgaaaag tcaacagcaa tatttataat	780
ttttcaggat ccagaagtag ctcatagatt aagaacat	818

<210> 20
 <211> 645
 <212> DNA
 <213> Homo sapiens

<400> 20	
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ttatctactt cgcgtttcca caaggataaa attaaataat gtatatgawa gtctttcatc	120
aactacaaat tgccatacaa atttaagtta gtaatagaat cattgtggga aaatagcata	180
agcattatgt tctaagagca aatcttatgt catgtatgtt attatctggg ggaattagat	240
taattttgtt ttgatcttag gttttcactg ggatctttac agcagaaatg tttctgaaaa	300
ttattgccat ggatccttac tattatttcc aagaaggctg gaatatcttt gacggtttta	360
ttgtgacgct tagcctggta gaacttggac tcgccaatgt ggaagggtta tctgttctcc	420
gttcatttcg attggtaaaa aaaaaaaaaa aaggaaccaa attcaaaaac ctttctaaca	480
ttcagggttc ttgcatagca ttgtcatagt ttttttgcca cacaaccatt aggcattgta	540
agtttttctg taacatttgc attgtcaaaa acttttccta catgggaata attctcaatt	600
attagggttac cttagttcaa gggcwaggtc ggaaaggtaa cggtt	645

<210> 21
 <211> 829
 <212> DNA
 <213> Homo sapiens

<400> 21	
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aaatatatat taatctttca ttttccagct gcgagatttc aagttggcaa aatcttggcc	120
aacgttaaata atgctaataa agatcatcgg caattccgtg ggggctctgg gaaatttaac	180
cctcgtcttg gccatcatcg tcttcatttt tgccgtggtc ggcatgcagc tctttggtaa	240
aagctacaaa gatttgtgtc gcaagatcgc cagtgtgtgt caactcccac gctggcacat	300
gaatgacttc ttccactcck hcctgattgt gttccgctg ctgtgtgggg agtggataga	360
gaccatgtgg gactgtatgg aggttgctgg tcaagccatg tgccttactg tcttcatgat	420
ggcatgggtg attggaaacc tagcggtagt taccactta agatatgcat tttggaaata	480
caccagcatg gcacatgtat acatatgtaa ctaacctgca cattgtgcac atgtacccta	540

aaacttaaa	tataataaaa	aaaaagagta	taatttaatg	gtgactgttt	tgtcaaaaag	600
aaaaacaaac	tatgattatt	ggtttaaaaag	tccattacct	tggatatatt	atcactttaa	660
caacacagca	atatabcagt	gcccctgcat	tttttatacc	aaattctatt	ttgtcagtca	720
ctttatcaca	ttttttatgt	gaattacaat	agagtatcat	attgagatga	gcctaaaagg	780
atgtgctggg	accattttat	aaattcagag	ccaaggaaga	gagaagtct		829

<210> 22
 <211> 909
 <212> DNA
 <213> Homo sapiens

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acaaaacctt	agattagctc	attcaatttc	actttacgaa	tgggagaact	tgagagcaac	120
agaaatcatg	tctttgtcca	aggatgtgct	attgagccag	tcacaaattc	agatcaccca	180
tcttctaate	actatgctgt	ggtgtttcct	tctcatcaag	ttttagaact	tagagttttt	240
tccacactta	aaagaaagaa	taagtgattg	taatctgctc	ttccctacat	tgggtgaaaa	300
ttataatcat	gtttttgttg	tttttaaggt	cctgaatctc	tttctggcct	tgcttctgag	360
ctcatttagt	gcagacaacc	ttgcagccac	tgatgatgat	aatgaaatga	ataatctcca	420
aattgctgtg	gataggatgc	acaaaggagt	agcttatgtg	aaaagaaaaa	tatatgartt	480
tattcaacag	tccttcatta	ggaaacaaaa	gatttttagat	gaaattaaac	cacttgatga	540
tctaaacaac	aagaaagaca	gttgtatgtc	caatcataca	gcagaaattg	ggaaagatct	600
tgactatctt	aaagatgtaa	atggaactac	aagtgggtata	ggaactggca	gcagtgttga	660
aaaatacatt	attgatgaaa	gtgattacat	gtcattcata	aacaaccca	gtcttactgt	720
gactgtacca	attgctgtag	gagaatctga	ctttgaaaat	ttaaacacgg	aagacttttag	780
tagtgaatcg	gatctggaag	aaagcaaaga	ggtaagattc	tataggtgtg	ggtaggtatg	840
aatacatata	catatatata	tatacacaca	tacagatgay	cctcagctta	atgatgtttt	900
tacttaaga						909

<210> 23
 <211> 516
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (393)..(393)
 <223> n = a, c, t or g

<220>
 <221> misc_feature
 <222> (415)..(415)
 <223> N = a, c, t or g

<220>
 <221> misc_feature
 <222> (454)..(454)
 <223> N = a, c, t or g

<220>
 <221> misc_feature
 <222> (513)..(513)
 <223> n = a, c, t or g

<400> 23
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 ccccttattc aatctctctt tttctctaaa aatatctcta cctcaagaag aataaaaaaac 120
 aaattcatag taataatcct tcttggcagg caacttatta ccaaaattaa ggactttact 180
 ttctatgtcc atctcactta cagaaactga atgaaagcag tagctcatca gaaggtagca 240
 ctgtggacat cggcgcacct gtagaagaac agcccgtagt ggaacctgaa gaaactcttg 300
 aaccgaagc ttgtttcact gaaggtaaag aaaagaatcc taatgttaat ctttcatttg 360
 gagtgcagct tatttagctg ttggtcagct aanataaatc acatataata aaatngcact 420
 ttgtaataga tataattcaa tcacctctaa tatnttgaca gacaaaaaaaaa cttaaagtct 480
 agtgtcatgc tttgattata tctgcccaat atntgg 516

<210> 24
 <211> 640
 <212> DNA
 <213> Homo sapiens

<400> 24
 ccattttaa atgtggctgaat gtttccacaa cttcacacag ctgatgaatg tgctcttact 60
 actctaggct tagagagcta tgctagcaag acagagatga gcatagtaat aaaaagacaa 120
 gacaaggaca ttgctaaagg atattatgga agcagagaca ctttatctac ttttattttca 180
 acactttctg caggctgtgt acaaagattc aagtgttgtc aaatcaatgt ggaagaaggc 240
 agaggaaaac aatgggtggaa cctgagaagg acgtgtttcc gaatagttga acataactgg 300
 tttgagacct tcattgtttt catgattctc cttagtagtg gtgctctggg gagtgagatt 360

aagaaaaggt gatacagcac taatttttag aacactctaa tactgatgac ttattaatcc	420
tttgtttcat tgtcttagta tccaatgcat ttttaattat cccaccttgt atcttctata	480
gatttactct ataactctat atttctggat taacttttac tatgtatgta aatataattt	540
taagaagcta atcattaatt tttgcttact attaaatagc ccagaaagtg tagcccttca	600
gcttattcat taacaccaaa ggatgtgaat attcaattac	640

<210> 25
 <211> 607
 <212> DNA
 <213> Homo sapiens

<400> 25	
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tcatactttt ctttttcttc caccaatagt ctttcccctg attaaataag taaaagacct	120
ttgcgaggaa aaaaaaaaaag taacagtaac tactgtttct ctgccctcct attccaatga	180
aatgtcatat gcatatgatt aattttttta atagcttatg gagtataatt atttttgaaa	240
gctaataatg tgtaacattt tctttatagg catttgaaga tatatatatt gaycagcgaa	300
agacgattaa gacgatgttg gaatatgctg acaaggtttt cacttacatt ttcattctgg	360
aaatgcttct aaaatgggtg gcatatggct atcaaacata tttcaccaat gcctggagtt	420
ggctggactt cttaattggt gatgtaggta tcgttcatat ttttgtctct gttcaaggta	480
gcttgtctta tttatattca aattctacaa tagtgagtct cagaccacta tgttatgttg	540
acagactata atarccacta aacgcatata tgcaatgaga gtgtcatttc tggaagacaa	600
gggctaa	607

<210> 26
 <211> 336
 <212> DNA
 <213> Homo sapiens

<400> 26	
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attgttatta ttcytgtgtg tgcaggtttc attggtcagt ttaacagcaa atgccttggg	120
ttactcagaa cttggagcct atcaatctct caggacacta agagctctga gacctctaag	180
agccttatct cgatttgaag ggatgagggt aagaaaaatg aaagaacctg aagtattgta	240
tatagccaaa attaaactaa attaaattta gaaaaaagga aaaatgtatg catgcaaaag	300

gaatggcaaa ttcttgcaaa atgctcttta ttgttt 336

<210> 27
<211> 677
<212> DNA
<213> Homo sapiens

<400> 27
cttggttata ttgcctatag ttgttttcct aagtgtattg ctttaagaaaa aaaaatgaat 60
tttaagathtt ttttgaacct tgctttttaca taccctagaa taaatagcat tgatagaaaa 120
aaagaatgga aagaccagag attactaggg gaattttttt tctttattaa cagataagaa 180
ttctgacttt tctttttttc catttgtgta ttaggtgggt gtgaatgcc ttttaggagc 240
aattccatcc atcatgaatg tgcttctggg ttgtcttata ttctggctaa ttttcagcat 300
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caggtttgac atcgaagacg tgaataatca tactgattgc ctaaaactaa tagaaagaaa 420
tgagactgct cgatggaaaa atgtgaaagt aaactttgat aatgtaggat ttgggtatct 480
ctctttgctt caagttgtaa gtgaacacta ttttctctga atatttttat tgtttggaat 540
aataacaaaa taatgacata catctattat ttagttccta agaaaaagta tatatttctt 600
tctatttaaa aaatttcaat ttgtagtac aagtttatga gcccagatgg gtgaaaactt 660
tattacatgt aaggact 677

<210> 28
<211> 457
<212> DNA
<213> Homo sapiens

<400> 28
aatggccatt ttgttcaata tgtgttctag aaatgaaaag ccatactaaa atactgtctt 60
ggtcctaaaat ctgtgtaaaa tttgttttga aatgtctttc aaaaatattc ctttttgaaa 120
attatatcag taagaatatt tattaaacat caggtctaaa ttatttttac tccaaagtaa 180
aacatgcatg tccttcttaa taggccacat tcaaaggatg gatggatata atgtatgcag 240
cagttgattc cagaaatgta agtattcctt gtattctaag tctttttaca atattgatca 300
ggtggtaaaa ttaatcgaat aaagcataaa cgaccaaagc aatgattct atcttgattt 360
aaaatatttg ggaaaaagtg tgacaggtaa atattcaagc atagcaatgt ttatcagaaa 420
gatcttacta agataattca acacatgaat tattttg 457

<210> 29
 <211> 379
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (43)..(43)
 <223> n = a, c, t or g

<400> 29
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 tggtaggtgg aactccagcc taagtatgaa gaaagtctgt acatgtatct ttactttgtt 180
 attttcatca tctttgggtc cttcttcacc ttgaacctgt ttattgggtg catcatagat 240
 aatttcaacc agcagaaaaa gaagataagt atttctaata ttttctctcc cactgagata 300
 gaaaaattat tccttggagt gttttctctg ccaaatgagt acttgaattt agaacaaatg 360
 ggagtatata ttataactg 379

<210> 30
 <211> 393
 <212> DNA
 <213> Homo sapiens

<400> 30
 gtcattttga attatttagg gaattaaaat attatcatat ctaaagagta caattttttt 60
 tacattttta atcccagata taattatact aatcagttga attttgtatt tcttttttta 120
 gccatccatt ttctatttta acattgaaaa aaatgtacaa aaggacacag ttttaaccag 180
 tttgattttt cttttctata ctttggaggt caagacatct ttatgacaga agaacagaag 240
 aaatactata atgcaatgaa aaaattagga tcgaaaaaac cgcaaaagcc tatacctcga 300
 ccaggagtaa gaagtatcaa atgatatggg ggaaaataca aaaacaaaaa ctgcatgctt 360
 gtctcacaaa aaagaaaagt aagctaaaca ttt 393

<210> 31
 <211> 539
 <212> DNA
 <213> Homo sapiens

<400> 31
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 tgcaagaaac tagaaagtca attaatgcag aaagtactta atgctaatac acatgagaaa 120

aactcctttg ttgttaaaag catttctatt tctctacaga acaaatttca aggaatggtc	180
tttgacttcg taaccagaca agtttttgac ataagcatca tgattctcat ctgtcttaac	240
atggtcacaa tgatgggtgga aacagatgac cagagtgaat atgtgactac cattttgtca	300
cgcacatc tgggtgttcatt tgtgctatct actggagagt gtgtactgaa actcatctct	360
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tccattgtag gtaagaaata tttaaagttc ttaaattcag ttaaataaaa gtgaaagctg	480
aaacaatcaa gattagattc aagatcatcc cagcaatcag agataatcac tgtaaatat	539

<210> 32

<211> 3403

<212> DNA

<213> Homo sapiens

<400> 32

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attctcattg tttattcata ggtatgtttc ttgccgagct gatagaaaag tatttcgtgt	180
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agtggagggtg	ctttgttgat	cttgTTTTgc	gaaatccagc	ccctagacca	agtagattat	2040
ttgtgggtag	gccagtaaat	cttagcaggt	gcaaacttca	ttcaaagtgt	tggagtcata	2100
aatgttatgt	ttctTTTTgt	tgtattaaaa	aaaaaacctg	aatagtgaat	attgcccttc	2160
accctccacc	gccagaagac	tgaattgacc	aaaattactc	ttataaaatt	tctgcttttt	2220
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aatgacctaa	gcacagtatt	tattgcatca	aatatgtacc	acaagaaatg	tagagtgcaa	2400
gctttacaca	ggtaataaaa	tgtattctgt	accatttata	gatagtttgg	atgctatcaa	2460
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aacctattaa	atatgtgttt	agaattttat	aagcaaatat	aaatactgta	aaaagtcact	2760

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aactgaattg aaggtagtgc ttatgttatt tttgttcttt ttttctgact tcggtttatg	3120
ttttcatttc tttggagtaa tgctgctcta gattgttcta aatagaatgt gggcttcata	3180
atTTTTTTTT ccacaaaaac agagtagtca acttatatag tcaattacat caggacattt	3240
tgtgtttctt acagaagcaa accataggct cctcttttcc ttaaaactac ttagataaac	3300
tgtattcgtg aactgcatgc tggaaaatgc tactattatg ctaaataatg ctaaccaaca	3360
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<210> 33

<211> 8349

<212> DNA

<213> Homo sapiens

<400> 33

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ctgggtaccgc caggacctga cagcttccgc ttctttacca gggaaatccct tgctgctatt	180
gaacaacgca ttgcagaaga gaaagctaag agacccaaac aggaacgcaa ggatgaggat	240
gatgaaaatg gcccaaagcc aaacagtgc ttggaagcag gaaaatctct tccatttatt	300
tatggagaca ttctccaga gatggtgtca gtgcccctgg aggatctgga ccctactat	360
atcaataaga aaacgtttat agtattgaat aaagggaaag caatctctcg attcagtgcc	420
accctgccc ttacatttt aactcccttc aaccctatta gaaaattagc tattaagatt	480
ttggtacatt ctttattcaa tatgctcatt atgtgcacga ttcttaccaa ctgtgtattt	540
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acgccttcca ccacgtctcc accctcgtat gatagtgtga ccaaaccaga aaaagaaaaa	6060
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Lys Ala Lys Arg Pro Lys Gln Glu Arg Lys Asp Glu Asp Asp Glu Asn
35 40 45

Gly Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Ser Leu Pro Phe
50 55 60

Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Val Pro Leu Glu Asp
65 70 75 80

Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys
85 90 95

Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu
100 105 110

Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His
115 120 125

Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val
130 135 140

Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr
145 150 155 160

Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala
165 170 175

Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn
180 185 190

Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val
195 200 205

Asp Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala
210 215 220

Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala
225 230 235 240

Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val
245 250 255

Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly
260 265 270

Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe
275 280 285

Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly
290 295 300

Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile
305 310 315 320

Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu
325 330 335

Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile
340 345 350

Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp
355 360 365

Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp
370 375 380

Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr
385 390 395 400

Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu
405 410 415

Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn
420 425 430

Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln
435 440 445

Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala Ala
450 455 460

Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile
465 470 475 480

Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys
485 490 495

Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Lys Gln Lys Glu
500 505 510

Gln Ser Gly Glu Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser
515 520 525

Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser
530 535 540

Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu

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Phe	Ala	Asp	Asp	Glu	His	Ser	Thr	Phe	Glu	Asp	Asn	Asp	Ser	Arg	Arg
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	610					615					620				
Val	Ser	Gln	Ala	Ser	Arg	Ala	Ser	Arg	Val	Leu	Pro	Ile	Leu	Pro	Met
625					630					635					640
Asn	Gly	Lys	Met	His	Ser	Ala	Val	Asp	Cys	Asn	Gly	Val	Val	Ser	Leu
				645					650					655	
Val	Gly	Gly	Pro	Ser	Thr	Leu	Thr	Ser	Ala	Gly	Gln	Leu	Leu	Pro	Glu
			660					665					670		
Gly	Thr	Thr	Thr	Glu	Thr	Glu	Ile	Arg	Lys	Arg	Arg	Ser	Ser	Ser	Tyr
			675				680					685			
His	Val	Ser	Met	Asp	Leu	Leu	Glu	Asp	Pro	Thr	Ser	Arg	Gln	Arg	Ala
	690					695					700				
Met	Ser	Ile	Ala	Ser	Ile	Leu	Thr	Asn	Thr	Met	Glu	Glu	Leu	Glu	Glu
705					710					715					720
Ser	Arg	Gln	Lys	Cys	Pro	Pro	Cys	Trp	Tyr	Lys	Phe	Ala	Asn	Met	Cys
				725					730					735	
Leu	Ile	Trp	Asp	Cys	Cys	Lys	Pro	Trp	Leu	Lys	Val	Lys	His	Leu	Val
			740					745					750		
Asn	Leu	Val	Val	Met	Asp	Pro	Phe	Val	Asp	Leu	Ala	Ile	Thr	Ile	Cys
		755					760					765			
Ile	Val	Leu	Asn	Thr	Leu	Phe	Met	Ala	Met	Glu	His	Tyr	Pro	Met	Thr
	770					775					780				

Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly
785 790 795 800

Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr
805 810 815

Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser
820 825 830

Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val
835 840 845

Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp
850 855 860

Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala
865 870 875 880

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala
885 890 895

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
900 905 910

Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe
915 920 925

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
930 935 940

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
945 950 955 960

Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn
965 970 975

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
980 985 990

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
995 1000 1005

Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu
1010 1015 1020

Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu
1025 1030 1035

Ile Lys Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile
1040 1045 1050

Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu
1055 1060 1065

Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu
1070 1075 1080

Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn
1085 1090 1095

Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp
1100 1105 1110

Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Asp Met
1115 1120 1125

Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly
1130 1135 1140

Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu
1145 1150 1155

Val Glu Pro Glu Glu Ser Leu Glu Pro Glu Ala Cys Phe Thr Glu
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Asp Cys Val Arg Lys Phe Lys Cys Cys Gln Ile Ser Ile Glu Glu
1175 1180 1185

Gly Lys Gly Lys Leu Trp Trp Asn Leu Arg Lys Thr Cys Tyr Lys
1190 1195 1200

Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile
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Leu Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu
1220 1225 1230

Gln Arg Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val
1235 1240 1245

Phe Thr Tyr Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala
1250 1255 1260

Tyr Gly Phe Gln Val Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp
1265 1270 1275

Phe Leu Ile Val Asp Val Ser Leu Val Ser Leu Thr Ala Asn Ala
1280 1285 1290

Leu Gly Tyr Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu
1295 1300 1305

Arg Ala Leu Arg Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met
1310 1315 1320

Arg Ala Val Val Asn Ala Leu Leu Gly Ala Ile Pro Ser Ile Met
1325 1330 1335

Asn Val Leu Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile
1340 1345 1350

Met Gly Val Asn Leu Phe Ala Gly Lys Phe Tyr His Cys Ile Asn
1355 1360 1365

Tyr Thr Thr Gly Glu Met Phe Asp Val Ser Val Val Asn Asn Tyr
1370 1375 1380

Ser Glu Cys Lys Ala Leu Ile Glu Ser Asn Gln Thr Ala Arg Trp
1385 1390 1395

Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Leu Gly Tyr Leu
1400 1405 1410

Ser Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met
1415 1420 1425

Tyr Ala Ala Val Asp Ser Arg Asn Val Glu Leu Gln Pro Lys Tyr

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Glu Asp Asn Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile				
1445		1450		1455
Phe Gly Ser Phe Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile				
1460		1465		1470
Asp Asn Phe Asn Gln Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile				
1475		1480		1485
Phe Met Thr Glu Glu Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys				
1490		1495		1500
Leu Gly Ser Lys Lys Pro Gln Lys Pro Ile Pro Arg Pro Ala Asn				
1505		1510		1515
Lys Phe Gln Gly Met Val Phe Asp Phe Val Thr Lys Gln Val Phe				
1520		1525		1530
Asp Ile Ser Ile Met Ile Leu Ile Cys Leu Asn Met Val Thr Met				
1535		1540		1545
Met Val Glu Thr Asp Asp Gln Ser Gln Glu Met Thr Asn Ile Leu				
1550		1555		1560
Tyr Trp Ile Asn Leu Val Phe Ile Val Leu Phe Thr Gly Glu Cys				
1565		1570		1575
Val Leu Lys Leu Ile Ser Leu Arg Tyr Tyr Tyr Phe Thr Ile Gly				
1580		1585		1590
Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile Val Gly				
1595		1600		1605
Met Phe Leu Ala Glu Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr				
1610		1615		1620
Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg				
1625		1630		1635
Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu				
1640		1645		1650

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1670						1675					1680			
Tyr	Val	Lys	Arg	Glu	Val	Gly	Ile	Asp	Asp	Met	Phe	Asn	Phe	Glu
1685						1690					1695			
Thr	Phe	Gly	Asn	Ser	Met	Ile	Cys	Leu	Phe	Gln	Ile	Thr	Thr	Ser
1700						1705					1710			
Ala	Gly	Trp	Asp	Gly	Leu	Leu	Ala	Pro	Ile	Leu	Asn	Ser	Gly	Pro
1715						1720					1725			
Pro	Asp	Cys	Asp	Pro	Asp	Lys	Asp	His	Pro	Gly	Ser	Ser	Val	Lys
1730						1735					1740			
Gly	Asp	Cys	Gly	Asn	Pro	Ser	Val	Gly	Ile	Phe	Phe	Phe	Val	Ser
1745						1750					1755			
Tyr	Ile	Ile	Ile	Ser	Phe	Leu	Val	Val	Val	Asn	Met	Tyr	Ile	Ala
1760						1765					1770			
Val	Ile	Leu	Glu	Asn	Phe	Ser	Val	Ala	Thr	Glu	Glu	Ser	Ala	Glu
1775						1780					1785			
Pro	Leu	Ser	Glu	Asp	Asp	Phe	Glu	Met	Phe	Tyr	Glu	Val	Trp	Glu
1790						1795					1800			
Lys	Phe	Asp	Pro	Asp	Ala	Thr	Gln	Phe	Ile	Glu	Phe	Ala	Lys	Leu
1805						1810					1815			
Ser	Asp	Phe	Ala	Asp	Ala	Leu	Asp	Pro	Pro	Leu	Leu	Ile	Ala	Lys
1820						1825					1830			
Pro	Asn	Lys	Val	Gln	Leu	Ile	Ala	Met	Asp	Leu	Pro	Met	Val	Ser
1835						1840					1845			
Gly	Asp	Arg	Ile	His	Cys	Leu	Asp	Ile	Leu	Phe	Ala	Phe	Thr	Lys
1850						1855					1860			

Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln
1865 1870 1875

Met Glu Glu Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr
1880 1885 1890

Glu Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser
1895 1900 1905

Ala Ile Ile Ile Gln Arg Ala Tyr Arg Arg Tyr Leu Leu Lys Gln
1910 1915 1920

Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys Gly Lys
1925 1930 1935

Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp Lys
1940 1945 1950

Leu Asn Glu Asn Ser Thr Pro Glu Lys Thr Asp Met Thr Pro Ser
1955 1960 1965

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Asp Ile Arg Glu Ser Lys Lys
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Gly Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Ser Leu Pro Phe
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Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Val Pro Leu Glu Asp
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Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu
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Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His
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Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val
 130 135 140

Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr
 145 150 155 160

Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala
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Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn
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Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val
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Asn Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala
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Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala
 225 230 235 240

Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val
 245 250 255

Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly
 260 265 270

Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe
275 280 285

Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly
290 295 300

Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile
305 310 315 320

Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu
325 330 335

Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile
340 345 350

Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp
355 360 365

Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp
370 375 380

Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr
385 390 395 400

Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu
405 410 415

Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn
420 425 430

Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln
435 440 445

Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala Ala
450 455 460

Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile
465 470 475 480

Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys
485 490 495

Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Lys Gln Lys Glu
500 505 510

Gln Ser Gly Glu Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser
515 520 525

Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser
530 535 540

Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu
545 550 555 560

Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser
565 570 575

Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp
580 585 590

Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg
595 600 605

Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn
610 615 620

Val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met
625 630 635 640

Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu
645 650 655

Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu
660 665 670

Gly Thr Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr
675 680 685

His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala
690 695 700

Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu
705 710 715 720

Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Lys Phe Ala Asn Met Cys
725 730 735

Leu Ile Trp Asp Cys Cys Lys Pro Trp Leu Lys Val Lys His Leu Val
740 745 750

Asn Leu Val Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys
755 760 765

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr
770 775 780

Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly
785 790 795 800

Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr
805 810 815

Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser
820 825 830

Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val
835 840 845

Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp
850 855 860

Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala
865 870 875 880

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala
885 890 895

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
900 905 910

Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe
915 920 925

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
930 935 940

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu

945		950		955		960
Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn						
		965		970		975
Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala						
		980		985		990
Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly						
		995		1000		1005
Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu						
		1010		1015		1020
Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu						
		1025		1030		1035
Ile Lys Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile						
		1040		1045		1050
Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu						
		1055		1060		1065
Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu						
		1070		1075		1080
Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn						
		1085		1090		1095
Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp						
		1100		1105		1110
Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Asp Met						
		1115		1120		1125
Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly						
		1130		1135		1140
Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu						
		1145		1150		1155
Val Glu Pro Glu Glu Ser Leu Glu Pro Glu Ala Cys Phe Thr Glu						
		1160		1165		1170

Asp	Cys	Val	Arg	Lys	Phe	Lys	Cys	Cys	Gln	Ile	Ser	Ile	Glu	Glu
1175						1180					1185			
Gly	Lys	Gly	Lys	Leu	Trp	Trp	Asn	Leu	Arg	Lys	Thr	Cys	Tyr	Lys
1190						1195					1200			
Ile	Val	Glu	His	Asn	Trp	Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile
1205						1210					1215			
Leu	Leu	Ser	Ser	Gly	Ala	Leu	Ala	Phe	Glu	Asp	Ile	Tyr	Ile	Glu
1220						1225					1230			
Gln	Arg	Lys	Thr	Ile	Lys	Thr	Met	Leu	Glu	Tyr	Ala	Asp	Lys	Val
1235						1240					1245			
Phe	Thr	Tyr	Ile	Phe	Ile	Leu	Glu	Met	Leu	Leu	Lys	Trp	Val	Ala
1250						1255					1260			
Tyr	Gly	Phe	Gln	Val	Tyr	Phe	Thr	Asn	Ala	Trp	Cys	Trp	Leu	Asp
1265						1270					1275			
Phe	Leu	Ile	Val	Asp	Val	Ser	Leu	Val	Ser	Leu	Thr	Ala	Asn	Ala
1280						1285					1290			
Leu	Gly	Tyr	Ser	Glu	Leu	Gly	Ala	Ile	Lys	Ser	Leu	Arg	Thr	Leu
1295						1300					1305			
Arg	Ala	Leu	Arg	Pro	Leu	Arg	Ala	Leu	Ser	Arg	Phe	Glu	Gly	Met
1310						1315					1320			
Arg	Ala	Val	Val	Asn	Ala	Leu	Leu	Gly	Ala	Ile	Pro	Ser	Ile	Met
1325						1330					1335			
Asn	Val	Leu	Leu	Val	Cys	Leu	Ile	Phe	Trp	Leu	Ile	Phe	Ser	Ile
1340						1345					1350			
Met	Gly	Val	Asn	Leu	Phe	Ala	Gly	Lys	Phe	Tyr	His	Cys	Ile	Asn
1355						1360					1365			
Tyr	Thr	Thr	Gly	Glu	Met	Phe	Asp	Val	Ser	Val	Val	Asn	Asn	Tyr
1370						1375					1380			

Ser	Glu	Cys	Lys	Ala	Leu	Ile	Glu	Ser	Asn	Gln	Thr	Ala	Arg	Trp
1385						1390					1395			
Lys	Asn	Val	Lys	Val	Asn	Phe	Asp	Asn	Val	Gly	Leu	Gly	Tyr	Leu
1400						1405					1410			
Ser	Leu	Leu	Gln	Val	Ala	Thr	Phe	Lys	Gly	Trp	Met	Asp	Ile	Met
1415						1420					1425			
Tyr	Ala	Ala	Val	Asp	Ser	Arg	Asn	Val	Glu	Leu	Gln	Pro	Lys	Tyr
1430						1435					1440			
Glu	Asp	Asn	Leu	Tyr	Met	Tyr	Leu	Tyr	Phe	Val	Ile	Phe	Ile	Ile
1445						1450					1455			
Phe	Gly	Ser	Phe	Phe	Thr	Leu	Asn	Leu	Phe	Ile	Gly	Val	Ile	Ile
1460						1465					1470			
Asp	Asn	Phe	Asn	Gln	Gln	Lys	Lys	Lys	Phe	Gly	Gly	Gln	Asp	Ile
1475						1480					1485			
Phe	Met	Thr	Glu	Glu	Gln	Lys	Lys	Tyr	Tyr	Asn	Ala	Met	Lys	Lys
1490						1495					1500			
Leu	Gly	Ser	Lys	Lys	Pro	Gln	Lys	Pro	Ile	Pro	Arg	Pro	Ala	Asn
1505						1510					1515			
Lys	Phe	Gln	Gly	Met	Val	Phe	Asp	Phe	Val	Thr	Lys	Gln	Val	Phe
1520						1525					1530			
Asp	Ile	Ser	Ile	Met	Ile	Leu	Ile	Cys	Leu	Asn	Met	Val	Thr	Met
1535						1540					1545			
Met	Val	Glu	Thr	Asp	Asp	Gln	Ser	Gln	Glu	Met	Thr	Asn	Ile	Leu
1550						1555					1560			
Tyr	Trp	Ile	Asn	Leu	Val	Phe	Ile	Val	Leu	Phe	Thr	Gly	Glu	Cys
1565						1570					1575			
Val	Leu	Lys	Leu	Ile	Ser	Leu	Arg	Tyr	Tyr	Tyr	Phe	Thr	Ile	Gly
1580						1585					1590			

Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile Val Gly
1595 1600 1605

Met Phe Leu Ala Glu Leu Ile Glu Lys Tyr Phe Val Ser Pro Thr
1610 1615 1620

Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg
1625 1630 1635

Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu
1640 1645 1650

Met Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe
1655 1660 1665

Leu Val Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala
1670 1675 1680

Tyr Val Lys Arg Glu Val Gly Ile Asp Asp Met Phe Asn Phe Glu
1685 1690 1695

Thr Phe Gly Asn Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser
1700 1705 1710

Ala Gly Trp Asp Gly Leu Leu Ala Pro Ile Leu Asn Ser Gly Pro
1715 1720 1725

Pro Asp Cys Asp Pro Asp Lys Asp His Pro Gly Ser Ser Val Lys
1730 1735 1740

Gly Asp Cys Gly Asn Pro Ser Val Gly Ile Phe Phe Phe Val Ser
1745 1750 1755

Tyr Ile Ile Ile Ser Phe Leu Val Val Val Asn Met Tyr Ile Ala
1760 1765 1770

Val Ile Leu Glu Asn Phe Ser Val Ala Thr Glu Glu Ser Ala Glu
1775 1780 1785

Pro Leu Ser Glu Asp Asp Phe Glu Met Phe Tyr Glu Val Trp Glu
1790 1795 1800

Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu Phe Ala Lys Leu

1805		1810		1815
Ser Asp Phe Ala Asp Ala Leu Asp Pro Pro Leu Leu Ile Ala Lys				
1820		1825		1830
Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met Val Ser				
1835		1840		1845
Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys				
1850		1855		1860
Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln				
1865		1870		1875
Met Glu Glu Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr				
1880		1885		1890
Glu Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser				
1895		1900		1905
Ala Ile Ile Ile Gln Arg Ala Tyr Arg Arg Tyr Leu Leu Lys Gln				
1910		1915		1920
Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys Gly Lys				
1925		1930		1935
Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp Lys				
1940		1945		1950
Leu Asn Glu Asn Ser Thr Pro Glu Lys Thr Asp Met Thr Pro Ser				
1955		1960		1965
Thr Thr Ser Pro Pro Ser Tyr Asp Ser Val Thr Lys Pro Glu Lys				
1970		1975		1980
Glu Lys Phe Glu Lys Asp Lys Ser Glu Lys Glu Asp Lys Gly Lys				
1985		1990		1995
Asp Ile Arg Glu Ser Lys Lys				
2000		2005		

<210> 37
 <211> 912

<212> DNA

<213> Homo sapiens

<400> 37

gaattcttta tatgggttga atgactttct gacatagcaa ataaaaagca tgaggagaag	60
cattatctgt taacaaaatt aacacttaaa atcaacaaag ttttaatgtt tcgttccaag	120
aaaagcctgt ggaagatcag ttccacaact gagagctttg ggctgcttca gacatatgtc	180
tgtgtgtacg ctgtgaaggt gtttctcttc acagttcccc gccctctagt ggtagttaca	240
ataatgccat tttgtagtcc ctgtacagga aatgcctctt cttacttcag ttaccagaat	300
ccttttacag gaagttaggt gtggtctttg aaggagaatt aaaaaaaaaa aaaaaaaaaa	360
aaaaaagatt tttttttttt taaagcatga tggaatttta gctgcagtct tcttggggcc	420
agcttatcaa tcccaaactc tgggggtaaa agattctaca ggggtaatgt tttattattc	480
ttattatgct tattctctgt gatgcttctc tacctttaca gtagtagaat ccttggggaa	540
atctgcagag ggaccacttt cattttgaag ctgctggctg catgttttag catgtctctt	600
ctattagaga atccaggcat ggcagtttcc tccccagtg tgcaaggacc atcttcatgc	660
ctatgtctgt cgctaggcat gagggctctc aggaatgggt gaaaaaatg agggatgttt	720
tggaggcact ataatactgg ggagggcagt ctgctagctg gtagctgaaa ggtcctgggt	780
tacttcaaca ttttttttaa ataaaactgt gcagtagttt ttgttatttt agggttccct	840
ctgttttatc tgggtgatgc tgcagaagtg aactgcataa cacatttcac tcttagaaat	900
gcattccata ta	912

<210> 38

<211> 722

<212> DNA

<213> Homo sapiens

<400> 38

ctcagtgcac gtaactgaca caatcacctc tatctaattg tcatgcttct tacctcctgt	60
tctgtagcac tttcttatgc aaggagctaa acagtgatta aaggagcagg atgaaaagat	120
ggcacagtca gtgctggtac cgccaggacc tgacagcttc cgcttcttta ccagggaatc	180
ccttgctgct attgaacaac gcattgcaga agagaaagct aagagacca aacaggaaacg	240
caaggatgag gatgatgaaa atggcccaaa gccaaacagt gacttggaag cagsaaaatc	300
tcttccattt atttatggag acattcctcc agagatgggt tcagtgcccc tggaggatct	360
ggacccttac tatatcaata agaaagtgag ttcttagtca agttgccttc actgcctatt	420

tactaattgg ttctgggcta gtcccaggga tgatggtgaa gaaggctggc ctccttcct	480
ctgtctaaaag tatcactaag atgctggatg ggcctgaccg tgtaatggac caatgatcct	540
agaagtcttt tggaagcact catttgaacc tgcatttgatg agacaggcag agaactggtg	600
aggcatcctc cagcgcgga attaaggaag gacaaaagcc tattcacctt cttgaataca	660
aattatatgc ttaaaccagt gtaaattgac cctgattccc taataatggt gagaagcaaa	720
aa	722

<210> 39
 <211> 561
 <212> DNA
 <213> Homo sapiens

<400> 39	
cctatggcat tgatcacaaa ttttcttaat aatcctcatg tcatttatca aatttaggaa	60
agtttatagt gtcagaaaa aaaaagcatc tatcttcatg tcatatgatg gtaattatta	120
tggtatacac tattttacag ggcaatattt ataaataatg gttttacttt tctcttaaaa	180
tattcttaat atatattcta agttttgttt tatgtgttgt gttttctttt tcagacgttt	240
atagtattga ataaaggga agcaatctct cgattcagtg ccaccctgc cctttacatt	300
ttaactccct tcaaccctat tagaaaatta gctattaaga ttttggtaca ttcatacct	360
ttttcaaadc gtcacttaat atgattttct tctttgacca agttattgag ctacacattt	420
tccaaaatat ctgtggttg caatgttatg tggtctttct ttttctttcc ttttactcaa	480
tcgttagcat gttgcaaaat gagatcacag gtaagtgaat tactttcccc cgtcttctaa	540
gtgtttcttc tctaccaac t	561

<210> 40
 <211> 510
 <212> DNA
 <213> Homo sapiens

<400> 40	
acctaaatag cctcaaaata gttgatggct tggcctgaag acaagatcta aatatgaggt	60
tgctgagtta tagaatggc aaaaaaagg gtcaataata gaataataag caacaaaata	120
atagtaagca ctaaagtttt aaacttcatg gtggtgaagg catggtagtg cataaaagta	180
agatttttcc attgaacttt gtcttccttg acgatattct actttattca atatgctcat	240
tatgtgcacg attcttacca actgtgtatt tatgaccatg agtaaccctc cagactggac	300
aaagaatgtg gagtaagtat aaatattttt caatattgac ctccctttat gtttcatatt	360

gtgcttttaa caccttgaga cctcctcaat ttctttaaca aatcatgcta gctactgtta	420
accagaccct gattcaaatt catttctgtc actaaatgtc ttctaggaca aagcttgtag	480
tgggctcact tagttgtgta aattactgca	510

<210> 41
 <211> 370
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (293)..(293)
 <223> n= a, c, t or g

<400> 41	
taagatatgt acttgtaa taaccactag atttttaatg tgagcttggc tattgtctct	60
caggatatacc ttacaggaa ttatacttt tgaatcactt attaaaatac ttgcaagggg	120
cttttgttta gaagatttca cattttttacg ggatccatgg aattggttgg atttcacagt	180
cattactttt gcgtaagtat cttaatacat tttctatcct ggaagagtaa atcactgggtg	240
ggagcctata ctatattttc cttggtggct tgccttgaca gaccaagcat ttntcttagt	300
aatcatagtt ttcttccaat caaattatcc agtttggaga aattaggaac tatcatagta	360
aattacatgg	370

<210> 42
 <211> 370
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (133)..(133)
 <223> n = a, c, t or g

<400> 42	
caattagcac tgtaaagtaa taaagtttcc caaataacag agattatgat tgatgacaat	60
gccatttttc tcttaattgg gaaagctgat ggcgacactc atgaaattaa aaaggtcttg	120
atgaaagacc aangaagacg tagatttccc taaattctga ataactctga tttaattcta	180
caggatatgta acagaatttg taaacctagg caatgtttca gctcttcgaa ctttcagagt	240
cttgagagct ttgaaaacta tttctgtaat tccaggtaag aagaaaatgg tataagggtgg	300

taggccccctt atatctccaa ctgtttcttg tgttctgtca ttgtgtttgt gtgtgaaccc 360
cctattacag 370

<210> 43
<211> 410
<212> DNA
<213> Homo sapiens

<400> 43
gtaagaagaa aatggtataa ggtggtaggc cccttatatc tccaactgtt tcttggttc 60
tgtcattgtg tttgtgtgtg aaccccctat tacagatatg tgacagagtt tgtggacctg 120
ggcaatgtct cagcgttgag aacattcaga gttctccgag cattgaaaac aatttcagtc 180
attccaggtg agagctaggt taaacaccga ggctgacttt agctacagtg gtgctacaat 240
cacagctttt gtgcagaagc cttgttgcta gttgcatatt gcaaataaat atgtaaaaaa 300
gcaagaattg gtacatcatt ttttggtatg atttgattct ttgcttttta cccgttgctt 360
tctttaaaac tattctaaat cagcctttga gtttaacaag tgttgcatga 410

<210> 44
<211> 1066
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (229)..(229)
<223> n = a, c, t or g

<400> 44
aaagagtgtt tggaaataca catttggttc atttccattc acagttttct aatgaacata 60
caagttctgc tttcattcat tttcaccagc tagtaggctt ttcataaaaa tgttattcaa 120
tcacaaacat taaactaata ttgttggcat tctgcatgac atttttatth tccaggccaa 180
gctcatgata tttttgccgg taaaatagct gttgagtagt atatttaant tcccccttct 240
gattttgttt gtaggcctga agaccattgt gggggccctg atccagtcag tgaagaagct 300
ttctgatgtc atgatcttga ctgtgttctg tctaagcgtg tttgcgctaa taggattgca 360
gttgttcatg ggcaacctac gaaataaatg tttgcaatgg cctccagata attcttcctt 420
tgaaataaat atcacttcct tctttaacaa ttcattggat gggaatggta ctactttcaa 480
taggacagtg agcatattta actgggatga atatattgag gataaaaagta agatatactc 540
tataaacat taagttgttt agttctctaa atattaaata ttatatataa tggaaattat 600

ctcaatttag atgtgaatca agtgacttag actaatttaa gatgatttaa tacatataaa	660
agagatatca aaggatacct tattctatctt ttsttatctg tccattgata tagtaaaagt	720
tctcatttga aaatgtgttg tcttatactc atgttgaaag taatttcata ttatgccata	780
ttaaaaaagg tttatttggg agacattaat cagggttttc agtcatttta ataaataagt	840
cagtagtttg aactattcmg cgtattccac tgaaatgtcg ttaagaagac tgaggggaaa	900
taatttggcc ctatttgggt gatgcaacat atgtattgag tacatatgct atatctgaaa	960
ctagagaaac catttatcaa gatgaaataa gaatttgtgt gctcctcaga aggttaagta	1020
accctgattt agccattcac ttcattccata ttctaattag tccctt	1066

<210> 45
 <211> 385
 <212> DNA
 <213> Homo sapiens

<400> 45	
gttcaattat tgtgaaaaat cttcttttagc catatatatt tattagttta tccatctcat	60
tatgattgaa aacatttgtg agctttgccca cctaaacagg gtggctgaag tgttttacag	120
gattttaatg attctttcta ttcctttctc tttaaataagg tcacttttat tttttacagg	180
ggcaaaatga tgctctgctt tgtggcaaca gctcagatgc agggtaagtg tatgcttcct	240
actgagtttc agtccacact gctccatcag tgtcaataac ctgccacctc ccactcatcc	300
agtcccacca ctctcactc aaaaccctcc ataaattcta cttcacgggtg actctcagaa	360
tgaccaggat aagtgtagat tctca	385

<210> 46
 <211> 430
 <212> DNA
 <213> Homo sapiens

<400> 46	
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cattatataa atcagtccac ttagtgctga gttaagtact gggtaagggtg agagaaatcg	120
gcttttttct agtgctgtga taaaacagac attggcatat attaaaacag gaaaaccaat	180
tagcagactt gccgttattg actycctctc tttcctctaa cctaattaca gccagtgtcc	240
tgaaggatac atctgtgtga aggctggtag aaaccccaac tatggctaca cgagctttga	300
cacctttagt tgggcctttt tgtccttatt tcgtctcatg actcaagact tctgggaaaa	360

cctttatcaa ctggtgagaa cagataaaat catttttctg agaatcataa aacaccgaac 420
tcaagagaat 430

<210> 47
<211> 646
<212> DNA
<213> Homo sapiens

<400> 47
tgctgtagaa tattttatta cttagagtgt aagtttgtaa catcctatat aaaatttatt 60
aaaatctctc ttccattttg cagacactac gtgctgctgg gaaaacgtac atgatatttt 120
ttgtgctggg cattttcttg ggctcattct atctaataaa tttgatcttg gctgtgggtg 180
ccatggccta tgaggaacag aatcaggcca cattggaaga ggctgaacag aaggaagctg 240
aatttcagca gatgctcgaa cagttgaaaa agcaacaaga agaagctcag gtatagttaa 300
caagcatacg gtcctttgtt tttctgtatc taaattcttt aacctaaatg ttgaggtcag 360
tggcaaggta gttgacatta gaaataggtc atatgtgttt ggtaagtgtc aggagcctgt 420
ttggttatta agaagttatt actttattgc aatgatctct gtcaatagtg tcaatagtaa 480
tggcatcaaa aaatggataa ttataattgc tttactgaca ttttttctc cttgtgact 540
ccttgaggaa attaatgatt aacaaaggcc tcatgtactc aaacttgagc agtagataaa 600
cctacatgtc ctgagttgaa gtattttctt aggggaagag gaattc 646

<210> 48
<211> 711
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (164)..(164)
<223> n = a, c, t or g

<400> 48
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ctgtgttcta aaacacagaa taaaatggag aattgttttt caagattatc ttcattgat 120
tgaagctcaa ttaagcagta acatgataat tatttttttaa gatnatatgc aacttccac 180
atactttgcg cccttctagg cggcagctgc agccgcatct gctgaatcaa gagacttcag 240
tggtgctggg gggataggag ttttttcaga gagttcttca gtagcatcta agttgagctc 300
caaaagttaa aaagagctga aaaacagaag aaagaaaaag aaacagaaag aacagtctgg 360

agaagaagag aaaaatgaca gagtcctaaa atcggaatct gaagacagca taagaagaaa	420
aggtttccgt ttttccttgg aaggaagtag gctgacatat gaaaagagat tttcttctcc	480
acaccaggta aaaatattaa attacatgaa ttgtgttctc ataaattttt taaaagaata	540
tgccagaatt taatggagag aaaaccgcct tccacctgga tggcacaatg ctttcagagt	600
agtgatgatt atcaagtgtt ttggctatca cttcagagaa tttgtgagtt ttgcaacttt	660
ttggaatccc aggaaggaaa ttttagatcc ctctgggttt ggaaaaattt g	711

<210> 49
 <211> 1026
 <212> DNA
 <213> Homo sapiens

<400> 49	
ttatggggac acttctgact atgttgaggt gtgggtaaag taggagaaaa gagagcagaa	60
gatggaaaat ggaggaagga gaaaaagcga gagtgaaata gaaaagggtga accttgtaga	120
aagtgccaaa atgccaccag cagtcatcag aggggtgctt tcttccacat gtccaatgac	180
ttatccttga gtaagtcaat gactatgaca caatgaatca aattctgttt ttcagaatgc	240
cagctcttaa ctctcttcat ctcatTTTTg tttcttttct tgttattcat agtccttact	300
gagcatccgt ggctcccttt tctctccaag acgcaacagt agggcgagcc ttttcagctt	360
cagaggtcga gcaaaggaca ttggctctga gaatgacttt gctgatgatg agcacagcac	420
ctttgaggac aatgacagcc gaagagactc tctgttcgtg ccgcacagac atggagaacg	480
gcgccacagc aatgtcagcc aggccagccg tgcctccagg gtgctcccca tcctgcccac	540
gaatgggaag atgcatagcg ctgtggactg caatgggtgtg gtctccctgg tcggggggccc	600
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gaatttkttg agtttsttgc ccaaaggctg ggagtttggt caatcaagct gttaactgtc	780
ttgtgaaact sttctattca gacttitycta caaagtaatt aaaaacctag gttggctgtc	840
agagaatata attagamgtm atctttcatc ayyattacta tgggatgaaa ctcgccaaaa	900
agcaaagcaa caatttatca agcataatgt tygaytaata tagttaaatt aaatccaagg	960
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aggaga	1026

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 <211> 601
 <212> DNA
 <213> Homo sapiens

<400> 50
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 aaagcatggg gtatatcttag ttaaataaca cctgttgtag gaatgctttg ggctttgctg 180
 ctttcaaaaa tagtggttat ttcattctgaa attctacttc tagggcacia ctactgaaac 240
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 tacatcaagg caaagagcaa tgagtatagc cagtattttg accaacacca tggaaggtat 360
 gttaaaagtc ctgcgtcaca gttacttggg gctttcctaa tgatgaaaaa cacttcataa 420
 atttcaataa aatacttcct gacttgatat tgtatcatta ttacacattt tactaaataa 480
 cagtaaaatc cgtgcataac tcatggattc atatattcca cagatttttt ttttttatat 540
 ttagcctgta gaaagctgct gcaaatgtaa ggtatatattg aacaccactt tcataactta 600
 a 601

<210> 51
 <211> 645
 <212> DNA
 <213> Homo sapiens

<400> 51
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 ttttaattta aaccaaactc gcttaataga aagtaagcag ttttcatgag gattctaact 180
 ttttttcttc cagaacttga agaatccaga cagaaatgcc caccatgctg gtataaattt 240
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 aacctggttg taatggaccc atttggtgac ctggccatca ccatctgcat tgtcttaaat 360
 acactcttca tggctatgga gcactatccc atgacggagc agttcagcag tgtactgtct 420
 gttggaaacc tggtaagcct cactgagagt ttctcttctt cttgaaagag tttataattg 480
 ccttagtgaa ttttacatat tgctctcaaa ttaaataatca actaattggc catgtatatc 540
 ttgacatcaa atgttttagc tcccttttaa ataacaaaaa aatgttgcta ccatagtgca 600
 aaagagtcaa agaatttatg tacaatttga tttagaattg aattt 645

<210> 52
 <211> 485
 <212> DNA
 <213> Homo sapiens

<400> 52
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 atttaggtct tcacagggat cttcacagca gaaatgtttc tcaagataat tgccatggat 180
 ccatattatt actttcaaga aggctggaat atttttgatg gttttattgt gaggcttagt 240
 ttaatggaac ttgggttggc aaatgtggaa ggattgtcag ttctccgac attccggctg 300
 gtaaattaac tgggagtgtt cataaaatgt actttrtaat taattagtct tcattctcat 360
 ctagtaaaaa tggcaagatt tcccatcatt ataatatatt tgaatacctt ctaaaacaga 420
 ttggattgcc ataccaccaa atggtagttt cttcttcac atagctttaa taaagttcac 480
 ttaaa 485

<210> 53
 <211> 602
 <212> DNA
 <213> Homo sapiens

<400> 53
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 tatataataa taaaataaaa taaaaataaa aataaaaaaa taaaaataaa ataaaattgc 120
 agattttttt agaaatgcag agattaacac tgttcttgct tttatttcca gctccgagtt 180
 ttcaagttgg caaaatcttg gccaaactcta aatatgctaa ttaagatcat tggcaattct 240
 gtgggggctc taggaaacct caccttggtg ttggccatca tcgtcttcat ttttgctgtg 300
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 gtgctgtgtg gagagtggat agagaccatg tgggactgta tggaggtcgc tggccaaacc 480
 atgtgcctta ctgtcttcat gatggctcatg gtgattggaa atctagtggg atgtagcaaa 540
 aacattttcc tcattttcat taaaaataat gtaatcatta aaaagtgttc aactgaagaa 600
 ta 602

<210> 54
 <211> 803

<212> DNA
<213> Homo sapiens

<400> 54
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agtattattt tatattgacc aagcattttt atttcattca ctttttttca gaatagtgtgta 120
tcatgaatta gcagaaatgc atgttagaat aaaataaggt gtcaagaaca atcttagaaa 180
actaatgatg gaaagcaatt gaagcaatag aatgttttga tcacctgttt ttctgtctgt 240
gttttcagggt ctgaacctct tcttggcctt gcttttgagt tccttcagtt ctgacaatct 300
tgctgccact gatgatgata acgaaatgaa taatctccag attgctgtgg gaaggatgca 360
gaaaggaatc gattttgta aaagaaaaat acgtgaattt attcagaaag cttttgttag 420
gaagcagaaa gcttttagatg aaattaaacc gcttgaagat ctaaataata aaaaagacag 480
ctgtatttcc aaccatacca ccatagaaat aggcaaagac ctcaattatc tcaaagacgg 540
aatggaact actagtggca taggcagcag tgtagaaaaa tatgtcgtgg atgaaagtga 600
ttacatgtca ttataaaca accctagcct cactgtgaca gtaccaattg ctgttggaga 660
atctgacttt gaaaatttaa atactgaaga attcagcagc gagtcagata tggaggaaag 720
caaagaggta aaatgttaaa taaggagata ttttggtgta tataatctgt gttaaataac 780
aggtgtttta tgcgtgtctc tgt 803

<210> 55
<211> 615
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (90)..(90)
<223> n = a, c, t or g

<220>
<221> misc_feature
<222> (378)..(386)
<223> n = a, c, t or g

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tggcattatg tttaagttct taattacaga tcaagaaaaa tgcatacaga agatgggggg 180
gggcacacct aattaatttt tatattttaga ttaaagaaaa taattaaatg tgtttttttg 240

tgggattgat tttcagaagc taaatgcaac tagttcatct gaaggcagca cggttgatat	300
tgagagctccc gccgaggag aacagcctga ggttgaacct gaggaatccc ttgaacctga	360
agcctgtttt acagaagnnn nnnnnnaagc aaaacaataa catatgtggt cttgagtatc	420
ctcttttcta cccatttttt cctattttatt taaatgtctg tttatttgtc taccatctag	480
ttcatctatc tatctgtatc tatctatcta tctatctatc tagtaatcat ctatacctat	540
ccaacaactg tacattttatt tgtttttttt ttttgcatth gctgtttgaa aaaaaatgca	600
acgtttttaa ggcaa	615

<210> 56
 <211> 400
 <212> DNA
 <213> Homo sapiens

<400> 56	
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gtaataatgt aaatgaatct cccaccaaca caaatatacc taatcaaaga gtaatttttt	120
gtcttcattt ttttcccaca tatttttagac tgtgtacgga agttcaagtg ttgtcagata	180
agcatagaag aaggcaaagg gaaactctgg tggaatttga ggaaaacatg ctataagata	240
gtggagcaca attgggttcga aaccttcatt gtcttcatga ttctgctgag cagtggggct	300
ctggtaggtg atgcatgatc cactccttca cttttcatct gaaatctttt ccctttccct	360
tcaatcaact catattaccc actttttaaat taagggtgtt	400

<210> 57
 <211> 560
 <212> DNA
 <213> Homo sapiens

<400> 57	
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atgataaagt aaaattcagc catgggaaac attaaacctt ccagccttag gcacctgata	120
agagcttgca tcgttttcctt ttttaagaaa tcatcaatta gagactgttt ctgatcataa	180
aatttaatag aatttttttga cttacaggcc tttgaagata tatacattga gcagcgaaaa	240
accattaaga ccatgttaga atatgctgac aagggttttca cttacatatt cattctggaa	300
atgctgctaa agtgggttgc atatggtttt caagtgtatt ttaccaatgc ctggtgctgg	360
ctagacttcc tgattgttga tgtgagtatg ctgcactttg ctgctttatt cattggcata	420

tatgtaatag ttctagcaat ggtgcctgac acagtgtagg cactcagtaa cactgtatca	480
gcccaaatat aaattatggt tctcatttca cagtgaagagg atgcctcaaa acattttttta	540
ccaatttaaa tacatataca	560

<210> 58
 <211> 480
 <212> DNA
 <213> Homo sapiens

<400> 58	
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agacccctgg gtgattttga aatcatgaa agttcgagaa ttactgattc attgcataga	120
gcaaggctga actgtgtaga cttttttata tgtaaataag aaaattgtgt tgctttttct	180
gtataggctc cactggttag cttaactgca aatgccttgg gttactcaga acttgggtgcc	240
atcaaatccc tcagaacact aagagctctg aggccactga gagctttgtc ccggtttgaa	300
ggaatgaggg taagactgaa tgccttagag tttgtcagaa ttattattga gagcagactg	360
acactttgta ccatggaaat gtcaaattta tggagaattt gtgtcttaca cattcatact	420
gacatagcta atcaatcaaa aataatattt accagatgcc cataatactt ggcaactgctg	480

<210> 59
 <211> 640
 <212> DNA
 <213> Homo sapiens

<400> 59	
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tttggtgttg gcttttctact tttttttcct tctcatcctg tgccagggtg ttgtaaattgc	180
tcttttagga gccattccat ctatcatgaa tgtacttctg gtttgtctga tcttttggct	240
aatattcagt atcatgggag tgaatctctt tgctggcaag tttaccatt gtattaatta	300
caccactgga gagatgtttg atgtaagcgt ggtcaacaac tacagtgagt gcaaagctct	360
cattgagagc aatcaaactg ccagggtgga aaatgtgaaa gtaaactttg ataacgtagg	420
acttgatgat ctgtctctac ttcaagtagt aagtaatcac tttattattt tccatgatgt	480
gtaattaaaa tgagtctaaa gtttttcttc ctcataatga gatatccacc tgtagaatg	540
gctattatca aacagataaa tgacaataaa tgctggcaag aatgtgaaga aaagggaacc	600
cttgatcatt gttggcaggg atgtaaatta gtatagcttt	640

<210> 60
 <211> 480
 <212> DNA
 <213> Homo sapiens

<400> 60
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 ttatttttcta aaattataat tttgggaaaa aagaaaatga tatgactttt cttacaggcc 180
 acgtttaagg gatggatgga tattatgtat gcagctgttg attcacgaaa tgtaagtcta 240
 gttagaggga aattgttttag tttgattaaa tgtatatattc tacaatattg taatttagtg 300
 atattgtcaa taaaataaaa ttatgtgctt aatttataaa acccatctat attataagga 360
 taaaatattt aatcatacta tttctttcaa aattatcata ggatgatttt ctctaatac 420
 tctgtatctt ttaacatata ttttctagta tttagcaagg cacctgacac aaaactttat 480

<210> 61
 <211> 366
 <212> DNA
 <213> Homo sapiens

<400> 61
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 tataatgggt acaattcttc atattcttta ggtagaatta caacccaagt atgaagacaa 120
 cctgtacatg tatctttatt ttgtcatctt tattattttt gggtcattct ttaccttgaa 180
 tcttttcatt ggtgtcatca tagataactt caaccaacag aaaaagaaga taagtatatt 240
 aaaacttcat ccttgctctg aaatatgaac taaatatttc atactctttc ctttagcctc 300
 caaaatgcaa tcaccaaaaa aagaatataa aattcagaaa ttatttttgag acatttgata 360
 atcgat 366

<210> 62
 <211> 560
 <212> DNA
 <213> Homo sapiens

<400> 62
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 aaatatgact aatatggcat aatttatata ttgaataaag gcatctctat aaatacagat 120
 attagtaaca atagaatgaa atgtggggagc caattttcac atgattacta aggtggattt 180

tatagccagc aaagaacaca attttaacaa gtgttgcttt catttcttta ctttggaggt	240
caagacattt ttatgacaga agaacagaag aaatactaca atgcaatgaa aaaactgggt	300
tcaaagaaac cacaaaaacc catacctcga cctgctgtaa gaataacata ttttcattgc	360
ctgttaaaac tatattacct aaccgtttca cagcccgaat ttctagaaac tagttatttt	420
tgtggatttg taacacaaag ttttttacct taacaatggg actagctagc ctaaatagct	480
tgaaaaatgt actttacata tataatatgt ataaattata taatgcataa catattttat	540
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<210> 63
 <211> 650
 <212> DNA
 <213> Homo sapiens

<400> 63	
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aaagctacat tttttgttgc tttcttaaaa tcagaagaat tgaattcgat tttttttaag	120
gtttctaattg gaacttttac atattatttg ttccagaaca aattccaagg aatggtcttt	180
gattttgtaa ccaaacaagt ctttgatata agcatcatga tcctcatctg ccttaacatg	240
gtcaccatga tgggtggaac cgatgaccag agtcaagaaa tgacaaacat tctgtactgg	300
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cgttactact atttcactat tggatggaat atttttgatt ttgtgggtgg cattctctcc	420
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aaatctaata gtccattggt ttagtttttag tttgccattt ctctaattgc atgctgtgct	600
tgaaatgatg agtgaatac aaggaattta tattttcagc tttcatttat	650

<210> 64
 <211> 3700
 <212> DNA
 <213> Homo sapiens

<400> 64	
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catatataca tgtacctaac tgtcctgttc acattttgta aaactaatgt acttatgtaa	120
actttcattt gctactatta agtataacaa tatttttggt atttgttgat tttctacagg	180

aatgtttctg gctgaactga tagaaaagta ttttgtgtcc cctaccctgt tccgagtgat	240
ccgtcttgcc aggattggcc gaatcctacg tctgatcaaa ggagcaaagg ggatccgcac	300
gctgctcttt gctttgatga tgtcccttcc tgcgttggtt aacatcggcc tccttctttt	360
cctggtcatg ttcattctacg ccattctttgg gatgtccaat tttgcctatg ttaagagggga	420
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cccattctgtt gggattttct tttttgtcag ttacatcatc atatccttcc tggttgtggt	660
gaacatgtac atcgcggtca tcctggagaa cttcagtgtt gctactgaag aaagtgcaga	720
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cagttacagc	aaaatacttt	gtgttttcaca	agcaacaata	aatgtagatt	ctttatactg	3480
aagctattga	cttgtagtgt	gttggtgaat	gcatgcagga	agatgctgtt	accataaaga	3540
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attgttgtct ttgtttctat ctttgaaatg ccattttaaag gtagatttct atcatgtaaa	3660
aataatctat ctgaaaaaca aatgtaaaga acacacatta	3700

<210> 65
 <211> 9112
 <212> DNA
 <213> Homo sapiens

<400> 65	
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tctctttgtt ttcttatcca cagagaaaga aagaaaaaaaa attgtaacta atttgtaaac	120
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<223> Xaa = any amino acid

<400> 67

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35 40 45

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile
50 55 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
65 70 75 80

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly
85 90 95

Lys Ala Ile Ser Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
100 105 110

Pro Leu Asn Pro Val Arg Lys Ile Ala Xaa Lys Ile Leu Val His Ser
115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
130 135 140

Met Thr Leu Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
145 150 155 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg
165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
180 185 190

Leu Asp Phe Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Asp
195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
225 230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
260 265 270

Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser Ala Phe Glu
275 280 285

Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp Ser Asn Gly Thr
290 295 300

Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp Lys Asp Tyr Ile Gly
305 310 315 320

Asp Asp Ser His Phe Tyr Val Leu Asp Gly Gln Lys Asp Pro Leu Leu
325 330 335

Cys Gly Asn Gly Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile Cys
340 345 350

Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr
355 360 365

Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Tyr
370 375 380

Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr
385 390 395 400

Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val

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Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met 435 440 445		
Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala 450 455 460		
Ala Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu 465 470 475 480		
Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala 485 490 495		
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Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys Ser Glu Ser 515 520 525		
Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser Met Asp Gly Asn 530 535 540		
Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro His Gln Ser Leu Leu 545 550 555 560		
Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Lys Thr Ser 565 570 575		
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Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Ser Glu Ser Arg Arg 595 600 605		
Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg Asn Ser Asn 610 615 620		
Gly Thr Thr Thr Glu Thr Glu Val Arg Lys Arg Arg Leu Ser Ser Tyr 625 630 635 640		

Gln Ile Ser Met Glu Met Leu Glu Asp Ser Ser Gly Arg Gln Arg Ala
645 650 655

Val Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu
660 665 670

Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Arg Phe Ala Asn Val Phe
675 680 685

Leu Ile Trp Asp Cys Cys Asp Ala Trp Leu Lys Val Lys His Leu Val
690 695 700

Asn Leu Ile Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys
705 710 715 720

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr
725 730 735

Glu Gln Phe Ser Ser Val Leu Thr Val Gly Asn Leu Val Phe Thr Gly
740 745 750

Ile Phe Thr Ala Glu Met Val Leu Lys Ile Ile Ala Met Asp Pro Tyr
755 760 765

Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Ile Ile Val Ser
770 775 780

Leu Ser Leu Met Glu Leu Gly Leu Ser Asn Val Glu Gly Leu Ser Val
785 790 795 800

Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp
805 810 815

Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala
820 825 830

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala
835 840 845

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
850 855 860

Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe
865 870 875 880

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
885 890 895

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
900 905 910

Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn
915 920 925

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
930 935 940

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
945 950 955 960

Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys
965 970 975

Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu
980 985 990

Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile
995 1000 1005

Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser
1010 1015 1020

Gly Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu
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Asn Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr
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Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr
1055 1060 1065

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1070 1075 1080

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Leu	Pro	Arg	Glu	Gly	Glu	Gln	Ala	Glu	Thr	Glu	Pro	Glu	Glu	Asp
1100						1105					1110			
Leu	Lys	Pro	Glu	Ala	Cys	Phe	Thr	Glu	Gly	Cys	Ile	Lys	Lys	Phe
1115						1120					1125			
Pro	Phe	Cys	Gln	Val	Ser	Thr	Glu	Glu	Gly	Lys	Gly	Lys	Ile	Trp
1130						1135					1140			
Trp	Asn	Leu	Arg	Lys	Thr	Cys	Tyr	Ser	Ile	Val	Glu	His	Asn	Trp
1145						1150					1155			
Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile	Leu	Leu	Ser	Ser	Gly	Ala
1160						1165					1170			
Leu	Ala	Phe	Glu	Asp	Ile	Tyr	Ile	Glu	Gln	Arg	Lys	Thr	Ile	Lys
1175						1180					1185			
Thr	Met	Leu	Glu	Tyr	Ala	Asp	Lys	Val	Phe	Thr	Tyr	Ile	Phe	Ile
1190						1195					1200			
Leu	Glu	Met	Leu	Leu	Lys	Trp	Val	Ala	Tyr	Gly	Phe	Gln	Thr	Tyr
1205						1210					1215			
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1220						1225					1230			
Ser	Leu	Val	Ser	Leu	Val	Ala	Asn	Ala	Leu	Gly	Tyr	Ser	Glu	Leu
1235						1240					1245			
Gly	Ala	Ile	Lys	Ser	Leu	Arg	Thr	Leu	Arg	Ala	Leu	Arg	Pro	Leu
1250						1255					1260			
Arg	Ala	Leu	Ser	Arg	Phe	Glu	Gly	Met	Arg	Val	Val	Val	Asn	Ala
1265						1270					1275			
Leu	Val	Gly	Ala	Ile	Pro	Ser	Ile	Met	Asn	Val	Leu	Leu	Val	Cys
1280						1285					1290			
Leu	Ile	Phe	Trp	Leu	Ile	Phe	Ser	Ile	Met	Gly	Val	Asn	Leu	Phe

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1325		1330		1335
Gly Lys Gln Ala Arg Trp Lys Asn Val Lys Val Asn Phe Asp Asn				
1340		1345		1350
Val Gly Ala Gly Tyr Leu Ala Leu Leu Gln Val Ala Thr Phe Lys				
1355		1360		1365
Gly Trp Met Asp Ile Met Tyr Ala Ala Val Asp Ser Arg Asp Val				
1370		1375		1380
Lys Leu Gln Pro Val Tyr Glu Glu Asn Leu Tyr Met Tyr Leu Tyr				
1385		1390		1395
Phe Val Ile Phe Ile Ile Phe Gly Ser Phe Phe Thr Leu Asn Leu				
1400		1405		1410
Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln Gln Lys Lys Lys				
1415		1420		1425
Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu Gln Lys Lys Tyr				
1430		1435		1440
Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys Pro Gln Lys Pro				
1445		1450		1455
Ile Pro Arg Pro Ala Asn Lys Phe Gln Gly Met Val Phe Asp Phe				
1460		1465		1470
Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met Ile Leu Ile Cys				
1475		1480		1485
Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp Gln Gly Lys				
1490		1495		1500
Tyr Met Thr Leu Val Leu Ser Arg Ile Asn Leu Val Phe Ile Val				
1505		1510		1515

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1550						1555					1560			
Tyr	Phe	Val	Ser	Pro	Thr	Leu	Phe	Arg	Val	Ile	Arg	Leu	Ala	Arg
1565						1570					1575			
Ile	Gly	Arg	Ile	Leu	Arg	Leu	Ile	Lys	Gly	Ala	Lys	Gly	Ile	Arg
1580						1585					1590			
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1595						1600					1605			
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1610						1615					1620			
Gly	Met	Ser	Asn	Phe	Ala	Tyr	Val	Lys	Lys	Glu	Ala	Gly	Ile	Asp
1625						1630					1635			
Asp	Met	Phe	Asn	Phe	Glu	Thr	Phe	Gly	Asn	Ser	Met	Ile	Cys	Leu
1640						1645					1650			
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1655						1660					1665			
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1670						1675					1680			
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1685						1690					1695			
Ile	Phe	Phe	Phe	Val	Ser	Tyr	Ile	Ile	Ile	Ser	Phe	Leu	Val	Val
1700						1705					1710			
Val	Asn	Ser	Tyr	Ile	Ala	Val	Ile	Leu	Glu	Asn	Phe	Ser	Val	Ala
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Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp Asp Phe Glu Met
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Phe Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp Ala Thr Gln Phe
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Ile Glu Phe Ser Lys Leu Ser Asp Phe Ala Ala Ala Leu Asp Pro
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Pro Leu Leu Ile Ala Lys Pro Asn Lys Val Gln Leu Ile Ala Met
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Asp Leu Pro Met Val Ser Gly Asp Arg Ile His Cys Leu Asp Ile
1790 1795 1800

Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu Ser Gly Glu Met
1805 1810 1815

Asp Ala Leu Arg Ile Gln Met Glu Asp Arg Phe Met Ala Ser Asn
1820 1825 1830

Pro Ser Lys Val Ser Tyr Glu Pro Ile Thr Thr Thr Leu Lys Arg
1835 1840 1845

Lys Gln Glu Glu Val Ser Ala Ala Ile Ile Gln Arg Asn Phe Arg
1850 1855 1860

Cys Tyr Leu Leu Lys Gln Arg Leu Lys Asn Ile Ser Ser Asn Tyr
1865 1870 1875

Asn Lys Glu Ala Ile Lys Gly Arg Ile Asp Leu Pro Ile Lys Gln
1880 1885 1890

Asp Met Ile Ile Asp Lys Leu Asn Gly Asn Ser Thr Pro Glu Lys
1895 1900 1905

Thr Asp Gly Ser Ser Ser Thr Thr Ser Pro Pro Ser Tyr Asp Ser
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<212> PRT
<213> Homo sapiens

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<223> Xaa = any amino acid

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35 40 45

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile
50 55 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
65 70 75 80

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly
85 90 95

Lys Ala Ile Ser Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
100 105 110

Pro Leu Asn Pro Val Arg Lys Ile Ala Xaa Lys Ile Leu Val His Ser
115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
130 135 140

Met Thr Leu Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
145 150 155 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg
165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
180 185 190

Leu Asp Phe Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Ser
195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
225 230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
260 265 270

Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser Ala Phe Glu
275 280 285

Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp Ser Asn Gly Thr
290 295 300

Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp Lys Asp Tyr Ile Gly
305 310 315 320

Asp Asp Ser His Phe Tyr Val Leu Asp Gly Gln Lys Asp Pro Leu Leu
325 330 335

Cys Gly Asn Gly Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile Cys
340 345 350

Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr
355 360 365

Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Tyr
370 375 380

Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr

385	390	395	400
Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val	405	410	415
Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Gly Gln Asn Gln	420	425	430
Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met	435	440	445
Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala	450	455	460
Ala Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu	465	470	480
Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala	485	490	495
Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu His Leu	500	505	510
Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys Ser Glu Ser	515	520	525
Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser Met Asp Gly Asn	530	535	540
Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro His Gln Ser Leu Leu	545	550	560
Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Lys Thr Ser	565	570	575
Ile Phe Ser Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp	580	585	590
Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Ser Glu Ser Arg Arg	595	600	605
Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg Asn Ser Asn	610	615	620

Gly Thr Thr Thr Glu Thr Glu Val Arg Lys Arg Arg Leu Ser Ser Tyr
625 630 635 640

Gln Ile Ser Met Glu Met Leu Glu Asp Ser Ser Gly Arg Gln Arg Ala
645 650 655

Val Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu
660 665 670

Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Arg Phe Ala Asn Val Phe
675 680 685

Leu Ile Trp Asp Cys Cys Asp Ala Trp Leu Lys Val Lys His Leu Val
690 695 700

Asn Leu Ile Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys
705 710 715 720

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr
725 730 735

Glu Gln Phe Ser Ser Val Leu Thr Val Gly Asn Leu Val Phe Thr Gly
740 745 750

Ile Phe Thr Ala Glu Met Val Leu Lys Ile Ile Ala Met Asp Pro Tyr
755 760 765

Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Ile Ile Val Ser
770 775 780

Leu Ser Leu Met Glu Leu Gly Leu Ser Asn Val Glu Gly Leu Ser Val
785 790 795 800

Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp
805 810 815

Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala
820 825 830

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala
835 840 845

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
850 855 860

Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe
865 870 875 880

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
885 890 895

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
900 905 910

Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn
915 920 925

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
930 935 940

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
945 950 955 960

Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys
965 970 975

Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu
980 985 990

Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile
995 1000 1005

Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser
1010 1015 1020

Gly Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu
1025 1030 1035

Asn Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr
1040 1045 1050

Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr
1055 1060 1065

Glu	Glu	Phe	Ser	Ser	Glu	Ser	Glu	Leu	Glu	Glu	Ser	Lys	Glu	Lys
1070						1075					1080			
Leu	Asn	Ala	Thr	Ser	Ser	Ser	Glu	Gly	Ser	Thr	Val	Asp	Val	Val
1085						1090					1095			
Leu	Pro	Arg	Glu	Gly	Glu	Gln	Ala	Glu	Thr	Glu	Pro	Glu	Glu	Asp
1100						1105					1110			
Leu	Lys	Pro	Glu	Ala	Cys	Phe	Thr	Glu	Gly	Cys	Ile	Lys	Lys	Phe
1115						1120					1125			
Pro	Phe	Cys	Gln	Val	Ser	Thr	Glu	Glu	Gly	Lys	Gly	Lys	Ile	Trp
1130						1135					1140			
Trp	Asn	Leu	Arg	Lys	Thr	Cys	Tyr	Ser	Ile	Val	Glu	His	Asn	Trp
1145						1150					1155			
Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile	Leu	Leu	Ser	Ser	Gly	Ala
1160						1165					1170			
Leu	Ala	Phe	Glu	Asp	Ile	Tyr	Ile	Glu	Gln	Arg	Lys	Thr	Ile	Lys
1175						1180					1185			
Thr	Met	Leu	Glu	Tyr	Ala	Asp	Lys	Val	Phe	Thr	Tyr	Ile	Phe	Ile
1190						1195					1200			
Leu	Glu	Met	Leu	Leu	Lys	Trp	Val	Ala	Tyr	Gly	Phe	Gln	Thr	Tyr
1205						1210					1215			
Phe	Thr	Asn	Ala	Trp	Cys	Trp	Leu	Asp	Phe	Leu	Ile	Val	Asp	Val
1220						1225					1230			
Ser	Leu	Val	Ser	Leu	Val	Ala	Asn	Ala	Leu	Gly	Tyr	Ser	Glu	Leu
1235						1240					1245			
Gly	Ala	Ile	Lys	Ser	Leu	Arg	Thr	Leu	Arg	Ala	Leu	Arg	Pro	Leu
1250						1255					1260			
Arg	Ala	Leu	Ser	Arg	Phe	Glu	Gly	Met	Arg	Val	Val	Val	Asn	Ala
1265						1270					1275			
Leu	Val	Gly	Ala	Ile	Pro	Ser	Ile	Met	Asn	Val	Leu	Leu	Val	Cys

1280		1285		1290
Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe				
1295		1300		1305
Ala Gly Lys Phe Tyr His Cys Val Asn Met Thr Thr Gly Asn Met				
1310		1315		1320
Phe Asp Ile Ser Asp Val Asn Asn Leu Ser Asp Cys Gln Ala Leu				
1325		1330		1335
Gly Lys Gln Ala Arg Trp Lys Asn Val Lys Val Asn Phe Asp Asn				
1340		1345		1350
Val Gly Ala Gly Tyr Leu Ala Leu Leu Gln Val Ala Thr Phe Lys				
1355		1360		1365
Gly Trp Met Asp Ile Met Tyr Ala Ala Val Asp Ser Arg Asp Val				
1370		1375		1380
Lys Leu Gln Pro Val Tyr Glu Glu Asn Leu Tyr Met Tyr Leu Tyr				
1385		1390		1395
Phe Val Ile Phe Ile Ile Phe Gly Ser Phe Phe Thr Leu Asn Leu				
1400		1405		1410
Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln Gln Lys Lys Lys				
1415		1420		1425
Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu Gln Lys Lys Tyr				
1430		1435		1440
Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys Pro Gln Lys Pro				
1445		1450		1455
Ile Pro Arg Pro Ala Asn Lys Phe Gln Gly Met Val Phe Asp Phe				
1460		1465		1470
Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met Ile Leu Ile Cys				
1475		1480		1485
Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp Gln Gly Lys				
1490		1495		1500

Tyr Met Thr Leu Val Leu Ser Arg Ile Asn Leu Val Phe Ile Val
1505 1510 1515

Leu Phe Thr Gly Glu Phe Val Leu Lys Leu Val Ser Leu Arg His
1520 1525 1530

Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp Phe Val Val Val
1535 1540 1545

Ile Leu Ser Ile Val Gly Met Phe Leu Ala Glu Met Ile Glu Lys
1550 1555 1560

Tyr Phe Val Ser Pro Thr Leu Phe Arg Val Ile Arg Leu Ala Arg
1565 1570 1575

Ile Gly Arg Ile Leu Arg Leu Ile Lys Gly Ala Lys Gly Ile Arg
1580 1585 1590

Thr Leu Leu Phe Ala Leu Met Met Ser Leu Pro Ala Leu Phe Asn
1595 1600 1605

Ile Gly Leu Leu Leu Phe Leu Val Met Phe Ile Tyr Ala Ile Phe
1610 1615 1620

Gly Met Ser Asn Phe Ala Tyr Val Lys Lys Glu Ala Gly Ile Asp
1625 1630 1635

Asp Met Phe Asn Phe Glu Thr Phe Gly Asn Ser Met Ile Cys Leu
1640 1645 1650

Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly Leu Leu Ala Pro
1655 1660 1665

Ile Leu Asn Ser Ala Pro Pro Asp Cys Asp Pro Asp Thr Ile His
1670 1675 1680

Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn Pro Ser Val Gly
1685 1690 1695

Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser Phe Leu Val Val
1700 1705 1710

Val	Asn	Ser	Tyr	Ile	Ala	Val	Ile	Leu	Glu	Asn	Phe	Ser	Val	Ala
1715						1720					1725			
Thr	Glu	Glu	Ser	Ala	Glu	Pro	Leu	Ser	Glu	Asp	Asp	Phe	Glu	Met
1730						1735					1740			
Phe	Tyr	Glu	Val	Trp	Glu	Lys	Phe	Asp	Pro	Asp	Ala	Thr	Gln	Phe
1745						1750					1755			
Ile	Glu	Phe	Ser	Lys	Leu	Ser	Asp	Phe	Ala	Ala	Ala	Leu	Asp	Pro
1760						1765					1770			
Pro	Leu	Leu	Ile	Ala	Lys	Pro	Asn	Lys	Val	Gln	Leu	Ile	Ala	Met
1775						1780					1785			
Asp	Leu	Pro	Met	Val	Ser	Gly	Asp	Arg	Ile	His	Cys	Leu	Asp	Ile
1790						1795					1800			
Leu	Phe	Ala	Phe	Thr	Lys	Arg	Val	Leu	Gly	Glu	Ser	Gly	Glu	Met
1805						1810					1815			
Asp	Ala	Leu	Arg	Ile	Gln	Met	Glu	Asp	Arg	Phe	Met	Ala	Ser	Asn
1820						1825					1830			
Pro	Ser	Lys	Val	Ser	Tyr	Glu	Pro	Ile	Thr	Thr	Thr	Leu	Lys	Arg
1835						1840					1845			
Lys	Gln	Glu	Glu	Val	Ser	Ala	Ala	Ile	Ile	Gln	Arg	Asn	Phe	Arg
1850						1855					1860			
Cys	Tyr	Leu	Leu	Lys	Gln	Arg	Leu	Lys	Asn	Ile	Ser	Ser	Asn	Tyr
1865						1870					1875			
Asn	Lys	Glu	Ala	Ile	Lys	Gly	Arg	Ile	Asp	Leu	Pro	Ile	Lys	Gln
1880						1885					1890			
Asp	Met	Ile	Ile	Asp	Lys	Leu	Asn	Gly	Asn	Ser	Thr	Pro	Glu	Lys
1895						1900					1905			
Thr	Asp	Gly	Ser	Ser	Ser	Thr	Thr	Ser	Pro	Pro	Ser	Tyr	Asp	Ser
1910						1915					1920			

Val	Thr	Lys	Pro	Asp	Lys	Glu	Lys	Phe	Glu	Lys	Asp	Lys	Pro	Glu
1925						1930					1935			

Lys	Glu	Ser	Lys	Gly	Lys	Glu	Val	Arg	Glu	Asn	Gln	Lys
1940						1945					1950	

<210> 69
 <211> 1380
 <212> DNA
 <213> Homo sapiens

<400> 69
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 gatatgaaag gtcagatgaa acaataacat acatctggat tgagaaatat cttaataact 120
 gatggattat ttttattttc tttatgtatt gtgtgcttca atatcctaata aaataatatt 180
 agctagggtc actgatgtat agaactctttt tctacattta gatatttctt gcaaagtgtt 240
 taccagaaag caacacaaaa atactatcag tgagtatgtg tttacactgt tctctaagga 300
 gtcaaattcc tcaccttgaa aataattcat cccaggaaga gaaaagggtt tcaaaagact 360
 agagcaggcc acaaggggagc tttcgcaaaa ctctacacgt aaagggtaat gtaaaacttaa 420
 aacctatttt tcaaacagta atttatatat cttttaattt tagtagttta tgtgtgaaac 480
 aatcatgcaa aacaacaaag tgataaaatt ttttaaaaaa attagtgaga tgcaaataac 540
 tgaatatgta aaagggtctca tacatattta tatgtagtag ataagttaca ttttttttagt 600
 gtgttgggaa attttagctc acatcacctc tctactgtca tcttggggca ctttcatgac 660
 taccatgct tcatgcaggt ttactttcct ccctgtgaca gaggataatg ggaatgtttt 720
 ttctttggct caattttgtg tgtgtccgcc agtagatggc gtaccacttt gagtgcgac 780
 ggcctttttt tctttctttt tttttttcct caaagctgtt ttctgatata tgttgggtac 840
 catagagtga atctcagaac aggaagcggg ggcataagca gagaggattc tggaaaggct 900
 tctttgtttt cttatccaca gagaaagaaa gaaaaaaaaat tgtaactaat ttgtaaacct 960
 ctgtggtcaa aaaaaaaaaa aaaaaaaaaa gctgaacagc tgcagaggaa gacacgttat 1020
 accctaacca tcttggatgc tgggctttgt tatgctgtaa ttcataaggc tctgttttat 1080
 caggtaagct gacaaaacat ttcattatct gcaccataga acctagctac caggtcattt 1140
 tccttacttt aaaatcatct tcatgctgct atttttaacc cagtgttggt taaatgtaaa 1200
 ttacaggaac caaaggcatc gtttgatgtg taaactgctt actatttctt tatctttcaa 1260
 agaaaataga gcctgtctgg aaatggtgat ttatggtaca tactaggcat caatggtctt 1320

gtgtttttgt agatgcttat gattaattgt attcagaaaa aatattttttt attataactta 1380

<210> 70
<211> 840
<212> DNA
<213> Homo sapiens

<400> 70
agggaagaac agaaggatgc tcaggagtgc cagcatgcct tcagaaagac taaatggatc 60
aaggctgcca aagaaggggg agcaccctg tcccaaccct aggatcctgg cagtggttcc 120
tgggtccatt cttcctaaat catgctaggg catgctttta acaaggggtca aatatcttgc 180
tttgcacatc ctttgctttc tcgatccagg gccataaaaa aaaaaggaat aaaaccaga 240
cacagagcca gagcaccct atgccaaatg tcaaagatta taggctaatt tcacctgtat 300
tctctttcta cagagattat ggagcaagaa aactgaagcc aagccacatc aaggtttgac 360
agggatgaga tacctgtcaa ggattcatag tagagtggct tactgggaaa ggagcaaaga 420
atctcttcta gggatattgt aagaataaat gagataattc acagaaggga cctggagctt 480
ttccgaaaa aggtgctgtg actatctaag gtaactaaac aacttctggg tataagtttg 540
tttttgtgga aaataaacta aaatctctac tatttaacaa ggacagctgt atcaggacca 600
aaagaaggca gaggggtgtt ttcttccttc ctctaccagt ttgttcttcc aaagaggcaa 660
atacatagc ggagacatag cacagatgac cttaggaat ggaatgatgc caaaggctgt 720
tgatgtaaga aagagagatt aactcagttt tttttttgtt tttgtttttt tgttgttgtt 780
gttgttgtt ttagacagag tctctctctg tcgcccaggc tggagtgcag tggcatgaac 840

<210> 71
<211> 780
<212> DNA
<213> Homo sapiens

<400> 71
gatatattaa attttatgta ttttaataaa ttataatgtg catataatca ttaataatat 60
atatattcca caccaaggca tcagtaagaa ttaattttta aagtctgctc taatgtgaat 120
ataaaattat gtaagaactc tgtataataa gctcacagag tacaagaaag gagaggaaaa 180
aagtaaaaga gaactgcgaa agaactatga gggatttcca aacagcaaaa ttgtcattga 240
agccatgaga aactctactc actaaattct ttaatttctc agcctacca aatattgggc 300
aaaccctaatt tctcttgacg gggaaaagct gagagtctgg aactagccta tcttccgagg 360

acttagagac aacagtatgg gaatttcaac gagacgtttt tactttcttt tgaccaagat	420
tcaaattctt tattccagcc cttgataagt aaataagaag gtaaaggact atttatttgt	480
aaaaagtttt tcatgatttt gtgatggcac cttgttccat atcatctcag ataaatcaga	540
ataatttgtg aaaattactc ggtgatttcc acattagata ttttaaacct aatgttattt	600
ctaaaacaaa aaccaaccag gagaatccaa ttaagtaaaa tgtatgtatt aatataaatt	660
agctattccc atctggaaaa gggcagccat ttctgtgttg aggtgcctca atgatactga	720
ggctgagaca ggtagatga tacaggcata ccattagcag cagactcaat actaaccag	780

<210> 72
 <211> 1025
 <212> DNA
 <213> Homo sapiens

<400> 72	
acaaagtatt gaaaaggcgg ggggcaggat gcagaataat taagcaattt tattgacaaa	60
ctthactggc attactcttt tgctgaaagt atactatatt ttggcttaca gtgtcaaac	120
agaatttttt aaatgctttt aaaaaatgga caaaattata gatattcttg agtttaaata	180
taatgtttat atattatata tactgtacat tgtagaatgg ctaaataaaa ctaattaaca	240
ttaagtacag acttttgata gatttatgaa cttggcttat tgagaatgag gttgaatgat	300
gatgttttca agttcaaagtg tgtagtgcag tactaaaagc atgacttaat gtttatagct	360
ttaaaaagtt actaaagaat gacatttttg ttgatgttct tatgcccaat cgcttgcttt	420
cctaactctt gtgcaatttt tctttttatt gcaggtaatt cgtatgcaag aagctacacg	480
taattaaatg tgcaggatga aaagatggca caggcactgt tggtagcccc aggacctgaa	540
agcttcgcc tttttactag agaattctctt gctgctatcg aaaaacgtgc tgcagaagag	600
aaagccaaga agcccaaaaa ggaacaagat aatgatgatg agaacaacc aaagccaat	660
agtgacttgg aagctggaaa gaaccttcca tttatttatg gagacattcc tccagagatg	720
gtgtcagagc ccctggagga cctggatccc tactatatca ataagaaagt gagtatgat	780
tttagacttc taataaatct ttaatgaaac tcttaactgt aatatacttt tctgggcctt	840
atatacagca tcacaatttt tcttctgtta aagattttat aatactcttc actgtcactt	900
atttttatca caatataata aaacaaacat ttataagaaa tgaagtcaag agttgggttac	960
agtcaggaaa tatgaataga tgaatgattt ctacaatttc acagtgataa ttcagatagt	1020
caaaa	1025

<210> 73
<211> 433
<212> DNA
<213> Homo sapiens

<400> 73
tgtaacyata tgtaattta aacatctaac atgtttgtag ttatgatata tcaactgggt 60
taaacaaacc agtttgaaca aacaaattcy attttttaaa aaggctcctca tgtatgtaag 120
ctccttaaata aagcccatgt ctaatttagt aattttactc gtattttctg tttcagactt 180
ttatagtaat gaataaagga aaggcaattt cccgattcag tgccacctct gccttgata 240
ttttaactcc actaaaccct gttaggaaaa ttgctabsaa gatTTTtggtta cattcatatc 300
cttttaagt gaattgccta aatgctattt ctaacagttg attttaaaga aaatgtcagt 360
tatattttca agtatctgta aaatttcttt gagattaatg gtaacattgt tagtttaatt 420
catttatttg cat 433

<210> 74
<211> 450
<212> DNA
<213> Homo sapiens

<400> 74
gagtgcacca aggccatatt acaggctttg aagtttctta ttattttatc attgttttaa 60
aacaataat attaatttca cagtttttgc atcgataaac ttttttgtgt gttttggatc 120
atttataaat ggccatggta acctactaac atttattcct taactataat ctactttatt 180
cagcatgctt atcatgtgca ctattttgac caactgtgta tttatgacct tgagcaaccc 240
tcctgactgg acaaagaatg tagagtaagt aggaataact tctgggaatg agaaatgcac 300
actcaaattc tctagcaatc tccttggtgg tatagcctga cttatgggtt ccacttctgt 360
ctaagaaaag ttattttcat aatatgcagc cggttaaggga ggtctttcgg gggagctatt 420
cttctacgag gtaagtattt tcccacaaaa 450

<210> 75
<211> 701
<212> DNA
<213> Homo sapiens

<400> 75
aaaatttacc atttgyggct ttccattaca tttctatcag ataactctgc gctagtaggt 60
caaactagat gattatccat aagatacatg aaactattat tctaaaaccc aaatagttaa 120

accagattag attcctaaag aatataatctt ctcttcagtt taactctttg ctcaggcttg	180
taaaactaac taaatgaata gattatcttg taaatagaag taaggaacaa tattttaatg	240
aattgaaaaa ccacaaaagg ataggatttg ctatgattga aaacatttat tttaacagtt	300
caagcaaaat tgtaaatctt ggcttggaag tttttcctag gtacacattc actggaatct	360
atacctttga gtcacttata aaaatcttgg caagagggtt ttgcttagaa gattttacgt	420
ttcttcgtga tccatggaac tggctggatt tcagtgtcat tgtgatggcg tgagtaactt	480
tgaaaatttg ataagcgcaa aggagtgaag atagtcatag tacaaacaag gtctttgtgt	540
catatattaa atgtagagct ttcttgtagg tcaagttaac tatatgggtt gtgtattttc	600
agaatacata ttagaataca tattgcaatg taaatatatc cagtaaatga tcaataaatg	660
gggttatctt catgtcatat agtctttctc ttcacaaaa t	701

<210> 76
 <211> 286
 <212> DNA
 <213> Homo sapiens

<400> 76	
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aactttgcca aaactatcag taactctgat ttaattctgc aggtatgtaa cagaatttgt	120
aagcctaggc aatgtttcag cccttcgaac ttccagagtc ttgagagctc tgaaaactat	180
ttctgtaatc ccaggtaaga agaaactggg gtaaggtagt agggccctta tatctccaac	240
ttttcttggtg tggtattgtg tttgtgtgtg aactccccta ttacag	286

<210> 77
 <211> 515
 <212> DNA
 <213> Homo sapiens

<400> 77	
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attgtgtttg tgtgtgaact cccctattac agatatgtga cagagtttgt ggacctgggc	120
aatgtctcag cgttgagaac attcagagtt ctccgagcac tgaaaacaat ttcagtcatt	180
ccagggtgaga gctagggttaa acaccgaggt tgactttaat tattgagttt gaaatcaatt	240
tatatgactt acagcattag ccttggttgc tattattaca gttcatcccg gtaaataatg	300
ccaaatgatg tttcaatgtc agtttagctc ctaaaatctt ataaattaca tgcgtattta	360
taaagtcagc ctttgagttt aacagaaaat tgcagagac atcttcaaaa aatgctaatt	420

tgggcctctt gcgctctctc tctctctttt tcactaccat ggctttacta acagatttgg	480
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<210> 78
 <211> 564
 <212> DNA
 <213> Homo sapiens

<400> 78	
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gtgtaaaatc tgctgttcat ctatttccca aatcatcagg ctatccatac agctttgggtg	120
tctaaatagt caagcaatca tttatggggg aaagagaatg tgtgtgacta ttaagaaatc	180
atgatttctg gcactcttcc tcaggtaacc tatagttctc tctctgcagg tttaaagacc	240
attgtggggg ccctgatcca gtcggtaaag aagctttctg atgtgatgat cctgactgtg	300
ttctgtctga gcgtgtttgc tctcattggg ctgcagctgt tcatgggcaa tctgaggaat	360
aaatgtttgc agtggcccc aagcgattct gcttttgaaa ccaacaccac ttcctacttt	420
aatggcacia tggattcaaa tgggacattt gttaatgtaa caatgagcac atttaactgg	480
aaggataaca ttggagatga cagtaagaag tattacatta tgttaacctt agtgttgctg	540
aatgaatttt caactataaa tagt	564

<210> 79
 <211> 497
 <212> DNA
 <213> Homo sapiens

<400> 79	
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aggtcacttt tatgttttgg atgggcaaaa agacccttta ctctgtggaa atgggtcaga	180
tgcagggtaa gaaacataat atatattttt aagatataga actctttgctg aaaaaaaaaa	240
gtaggtagga aaacaactac atgggttatat gtgtagcctt accatgtatg caataaagag	300
cagtgtgtct cccctaggaa gtgccttgtc tgccttaccg gattgccact ggtcctaaac	360
tcacagcaat taaaaattat ccctttgtga agacctttcc ccaaaatttc acagttaaga	420
tgttcttaaa ttgatgtctc aatgtgtgaa ggcccagagt ctgtctttgc tgtacatcta	480
tcagagctgt taggaaa	497

<210> 80
<211> 501
<212> DNA
<213> Homo sapiens

<400> 80
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tctaaatgtc trwaaawatt tatttgcac taaattttct atcgggtcttc ctagtgaatt 120
tcatctgata agtttcacgg tgggcaatca cctaaagtgt tctggaaatt aaagcaagat 180
aattcgtcac agatagcagc tttgggtttt gaaaattcct ataagtcaaa taaattgaaa 240
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aggatacatc tgtgtgaagg ctggtcgaaa cccaactat ggctacacaa gctttgacac 360
ctttagctgg gctttcctgt ctctatttcg actcatgact caagactact gggaaaatct 420
ttaccagttg gtaagggtcca aatgagcatg cataacattt atttttatag acatgtatga 480
aatgaaaagc ataggctgag t 501

<210> 81
<211> 432
<212> DNA
<213> Homo sapiens

<400> 81
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catacatgat attttttgtc ctggtcattt tcttgggctc attttatttg gtgaatttga 180
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aacaaaaaga ggccgaattt cagcagatgc tcgaacagct taaaaagcaa caggaagaag 300
ctcaggtact gagtgataaa mgcaaagatt tatcattatt attmmtagtt tctaagtaga 360
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gtcattagac ac 432

<210> 82
<211> 489
<212> DNA
<213> Homo sapiens

<400> 82
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agttgcggca gcatcagctg cttcaagaga tttcagtgga ataggtgggt taggagagct	120
gttggaaagt tcttcagaag catcaaagtt gagttccaaa agtgctaaag aatggaggaa	180
ccgaaggaag aaaagaagac agagagagca ccttgaagga aacaacaaag gagagagaga	240
cagctttccc aaatccgaat ctgaagacag cgtcaaaaga agcagcttcc ttttctccat	300
ggatggaaac agactgacca gtgacaaaaa attctgctcc cctcatcagg tatgattttc	360
tactaagtgc tctggtttct ttgtcattgc tattgctttt tagtttttgt attttgtttt	420
ggtacacttt tgtactatct gtacttcagt tgagggacag ggaactaaca tttaatatag	480
ttgttttaa	489

<210> 83
 <211> 653
 <212> DNA
 <213> Homo sapiens

<400> 83	
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ataaatttga ttatccatgt ttaagggcaa gagtatacta actccaaaga aaacagatcc	180
tttaatatta atatttatta aataattgcg ttcttcccct acccccatcc cattcctttc	240
ctttttgctt tctctgcagt ctctcttgag tatccgtggc tcctgtttt cccaagacg	300
caatagcaaa acaagcattt tcagtttcag aggtcgggca aaggatgttg gatctgaaaa	360
tgactttgct gatgatgaac acagcacatt tgaagacagc gaaagcagga gagactcact	420
gtttgtgccg cacagacatg gagagcgacg caacagtaac gttagtcagg ccagtatgtc	480
atccaggatg gtgccagggc ttccagcaaa tggggaagat gcacagcact gtggattgca	540
atggtgtggt ttccttggtg ggtggacctt cagctctaac gtcacctact gggcaacttc	600
cccagaggtg ataatagatg acctagctgc tactgacatt attcaccaat ttg	653

<210> 84
 <211> 566
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (477)..(477)
 <223> n = a, c, t or g

<400> 84
gaattctctt aaaggtacta cctgtgatac tttttttaa aaaaaactgt ttataactta 60
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tgcaaagaaa tgctatgtgg tgttgattta cttattggga agagtgggtt gagccatcag 180
tatttggttt gcagggcacc accactgaaa cggaagtcag aaagagaagg ttaagctctt 240
accagatttc aatggagatg ctggaggatt cctctggaag gcaaagagcc gtgagcatag 300
ccagcattct gaccaacaca atggaaggta agagcaggtc atggaacagc caactttctg 360
tgattatgtg ctttgtgaac tattccttct tttcatagaa ttactgaagt ctgttaccga 420
gatcgaacta tatattagac ctaagaatgt gatatatggt gtacattatc acattgntta 480
caaaactaat attggcctta ttctttttga cttgggtcct taccttactt gcagagtgat 540
atttcaacac ttgatattat atcaat 566

<210> 85
<211> 748
<212> DNA
<213> Homo sapiens

<400> 85
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aaaaagtcga tctatatgac attttaatta acattttctg aaaatattta atgggattgt 120
cttctcaagt ttcttaagta atatgaactt ctattttcaa atataagcat caattttggt 180
aaataatgta aaatctacta gcaataataa ctcatTTTTTg ttgttattta ctactcttcc 240
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gatttgccaa tgtgttcttg atctgggact gctgtgatgc atgggttaaaa gtaaaacatc 360
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tgactgtagg aaacctggta agtacatttg aagtttactt atttactttg gtagatgtgg 540
gagagataga ccaaagggaa agatgtattt gtgctgtgtt gaacccaaaa attatattct 600
ctttctcat agaaagaaat atctaaggaa tattacaggg aatctcagag atacagccta 660
aaactcaact ggtatgaatg ctgattgttt aggccaatgt ctgtgctgat tgatcatggt 720
gtcttaccag ttgtaaacgt ctcaaaat 748

<210> 86
<211> 664

<212> DNA

<213> Homo sapiens

<400> 86

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agtgctgac tctaattttt taggtcttta ctgggatttt tacagcagaa atggttctca	180
agatcattgc catggatcct tattactatt tccaagaagg ctggaatatc tttgatggaa	240
ttattgtcag cctcagttta atggagcttg gtctgtcaaa tgtggaggga ttgtctgtac	300
tgcgatcatt cagactggta tctattttata tatatccctg tcgctcattg gcacaacatt	360
tattttgaaa ttgaatcaat gtatatattat ataattatta attttaattt taaatttaca	420
tcaatatgtg acattctaag aaaacatgta aacatccyct ttaaagctaa accattttct	480
aagaatgatg aaagcattca aaatactcta taatgattag gtatgtaggg cacattagaa	540
aacctacaag tactttctaa aactgtgttt taagtttatg aagctttttt ggccttacag	600
tctgtaaaga tacgcaaata aaaatttaga cccagttaa ttttagcttt ttattaacct	660
tact	664

<210> 87

<211> 750

<212> DNA

<213> Homo sapiens

<400> 87

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ccacgtgtgg ttctatgata ccacatacta ataaaataat gtctaaaatt atattatgat	180
tactactaac agcatctttt cacttgatta cagcttagag ttttcaagtt ggcaaaatcc	240
tggcccacac taaatatgct aattaagatc attggcaatt ctgtgggggc tctaggaaac	300
ctcaccttgg tgttgccat catcgtcttc atttttgctg tggtcggcat gcagctcttt	360
ggtaagagct acaaagaatg tgtctgcaag atcaatgatg actgtacgct cccacggtgg	420
cacatgaacg acttcttcca ctcttctctg attgtgttcc gcgtgctgtg tggagagtgg	480
atagagacca tgtgggactg tatggaggtc gctggccaaa ccatgtgcct tattgttttc	540
atgttgggtca tggtcattgg aaaccttgtg gtatgtatgt agtacaaatg ctcataaatt	600
agaacaagag cagacagtag ctaggaacgt ggccagatgt agtaaacata tctctggttt	660

atagtaagtg gcctagactg aaatccccct attagcactc agagaataag caagttat	720
aacttctcct gggctctggg ttccccat	750

<210> 88
 <211> 768
 <212> DNA
 <213> Homo sapiens

<400> 88	
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atagtaagca ttcaataaac atttggtgaa ataatttttag caaagatcta tgagttccct	120
ttttaggctg ttattttaaat gcatatttca atattaarat aggcattttt ctttttttct	180
tttaggttct gaacctcttt ctggccttat tgttgagttc atttagctca gacaaccttg	240
ctgctactga tgatgacaat gaaatgaata atctgcagat tgcagtagga agaatgcaaa	300
aggggaattga ttatgtgaaa aataagatgc gggagtgttt ccaaaaagcc ttttttagaa	360
agccaaaagt tatagaaatc catgaaggca ataagataga cagctgcatg tccaataata	420
ctggaattga aataagcaaa gagcttaatt atcttagaga tgggaatgga accaccagt	480
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tcataaaciaa cccagcctc accgtcacag tgccaattgc tgttgagag tctgactttg	600
aaaacttaaa tactgaagag ttcagcagtg agtcagaact agaagaaagc aaggaggtaa	660
ggaatgcttt taaatttttt gttccatttc ctatgataac catgtactac agttatttac	720
tattttcatt gtgcttatat gcattatcga aaagcaatga ttgtaagt	768

<210> 89
 <211> 471
 <212> DNA
 <213> Homo sapiens

<400> 89	
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ttttcacaca atgacacagt atttcccagt tagttaaata aaagggggaa aatcacatct	120
ttgaaatggg attttgtttc cagaaattaa atgcaaccag ctcatctgaa ggaagcacag	180
ttgatgttgt tctacccga gaaggtgaac aagctgaaac tgaacccgaa gaagacctta	240
aaccggaagc ttgttttact gaaggtaaac aagctctgat gtgattaaat acaatctccc	300
cttgttcttt acggagactg aatatgcctc atttaaaaaa aaaaatttag caaacgaggt	360
gtggtggctt atgcctgtaa ccccaaaatt ttgggaggct acggtaggag gattgcttga	420

ccccaggagt ttgagaccac cctgggaaat gtagtaaggc tttgcctcta c 471

<210> 90
<211> 623
<212> DNA
<213> Homo sapiens

<400> 90
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gctgacgata actaggaaat gaaggagatg gttaccctat gaaatgatta cctggaagtg 120
gagtggggaa ggggcaagaa agtttatttt ttcctattta agattaaaat atatttttta 180
attaactata ttttsattttt aggatgtatt aaaaagtttc cattctgtca agtaagtaca 240
gaagaaggca aagggaagat ctggtggaat cttcgaaaaa cctgctacag tattgttgag 300
cacaactggt ttgagacttt cattgtgttc atgacccctc tcagtagtgg tgcattggta 360
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cagatgcaaa cactgagctt cagaatcaaa agaaaaggca tatctgtgtc ttgcagagct 480
tggcacccaa ggtttaacga tgcaaaattc agttctgaac aaatcagcac catgaaacag 540
ccagatggaa tttctcatct ggtgtttatc taacagatgt tttcctcact gagacaacca 600
tttgagaga cattctgtaa cca 623

<210> 91
<211> 520
<212> DNA
<213> Homo sapiens

<400> 91
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ccatttaagt aaaataaaat atttttgatt cataggcctt tgaagatata tacattgaac 180
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ttctggaaat gcttctcaaa tgggttgctt atggatttca aacatatttc actaatgcct 300
ggtgctggct agatttcttg atcgttgatg taagtatttt aagtgatttt tataaaattg 360
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atgacataat tatgcagtta tttaaacaaa actgtaacat atgcaacaat gaggaatatc 480
tcatgggaaa gagtagagga ggtcctaaac atgggcagtg 520

<210> 92
<211> 595
<212> DNA
<213> Homo sapiens

<400> 92
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aaggtatgtc caaattagta tttagtctgc attaaataga taccacaccc tataccttca 300
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acattaagag cttaagacc tctaagagcc ttatcccggg ttgaaggcat gagggtaaga 480
agaatagaca ctctaattat tcatgtcaaa aattacatgt aggtaatgat ttagatagaa 540
aagggtgcca tactcttctg atatttattt caatagaaat tacagaatta gaagc 595

<210> 93
<211> 787
<212> DNA
<213> Homo sapiens

<400> 93
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ttttccttca aatatgtgct agaaaaatta gaagaaacaa cttgtccacc tagattttta 180
tttaactctt ttcaagcaca tattaatact aaacaaatac attgaaggaa tggtttccat 240
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tcaaggaaga ttatttcctt gatgttcttc gtttgaatga ctaacatttg acagcatgaa 660
aaaaagttaa tgataacacc tataatatca gcttgaattg atcataaaaa agatgttaca 720

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<210> 94
 <211> 438
 <212> DNA
 <213> Homo sapiens

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tttcatctgg ttaaatgtca ttgttaggtg aaatttttat gaacaattca aatatatgtt	180
atttacaggc cacatttaaa ggctggatgg atattatgta tgcagctgtt gattcacgag	240
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gtaatttaaa cactgataca tccaaaattc tatattagaa catttaatat tgcatataaa	360
aaatgaacag tctgcttcaa tatagatgat gcttgattaa tgtgtgccta atatacaata	420
tgtagcta atgaaacg	438

<210> 95
 <211> 637
 <212> DNA
 <213> Homo sapiens

<400> 95	
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aagtagcact gtattaagta acagcactca ataaattact gatttagtgt aagtatttat	180
agtatttttc atattattta atattttcaa tatcatttag gttaaacttc agcctgtata	240
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cactctgaat ctattcattg gtgtcatcat agataacttc aaccagcaga aaaagaagat	360
aagtattctt tagcttttac ctttcttcat tctggggttc tgtctgttaa tacagccaaa	420
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catgtgggta tttaagctgc agggattcca gcctctagtc agtggctcct ctcaaagttt	540
atctattgga tagctttctg acccaaaaat gtgtccactc cttcggaccc atccaacggg	600
tctccagtgc tttagcttgg cttacagagc ctttcag	637

<210> 96
 <211> 637
 <212> DNA
 <213> Homo sapiens

<400> 96
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 aagcaggata aatgtatatg taggaggata atatccactt aaaaattaga aaagattaaa 180
 ggaaagacaa atatttttttg tgaaaagtact attggaacac agaattgtaa ccagttttat 240
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 atgctctgga gcagaacata ttaggtgata tcaccaatat tgagccctaa ttataaagtt 480
 catattttgc atcataattc acaacttctg cactcattag gagttaccac attccaaaaa 540
 aaggaggtaa tgttctttat aatttgtgag ttgaaaactt ctagctcagg gttcctaata 600
 aatacttcca aagcaagggt cactttcctg ctaccaa 637

<210> 97
 <211> 759
 <212> DNA
 <213> Homo sapiens

<400> 97
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 aacactagca tatttgaata aaaactctga aacctgggtt tattcacaaa gctaactagt 660

tagaaaccat gttaggaata ccagatttgg gaaagagggtg aagaagacag gaaataaaca	720
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<210> 98
 <211> 3975
 <212> DNA
 <213> Homo sapiens

<400> 98	
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